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Prospectus of

The Arts, Science, Commerce, Agriculture, Music and Military Science Examinations

OF THE BOARD OF HIGH SCHOOL AND
INTERMEDIATE EDUCATION, UNITED PROVINCES,

for 1937

Published under the Authority of the Board of High
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COPIES of this Prospectus will be supplied free to all Government institutions, recognized for the Board's examinations, by the Superintendent, Printing and Stationery, United Provinces, Allahabad, direct. Copies will also be available for sale to other institutions and to the public at the Book Depot of the Government Central Press, Allahabad, at eight annas per copy, excluding postage, etc.

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CHAPTERS XII TO XV(*a*) OF THE BOARD'S REGULATIONS.

N.B.—These regulations are subject to amendment from time to time as the Board may determine. Notice of such amendments will be given in the *Gazette*.

CHAPTER XII.

EXAMINATIONS.

General Rules.

1. The Board shall conduct the following examinations :—

(*a*) The High School Examination.
(*b*) The Intermediate Examination.
(*c*) The Intermediate Examination in Commerce.
(*d*) The Intermediate Examination in Agriculture.
(*e*) The Diploma Examination in Indian Music at the end of the High School course.
(*f*) Examination for Certificate in Military Science.

2. The Board's examinations shall be held at such centres and on such dates and at such times as the Board may from time to time appoint.

3. The tests at the Board's examinations may be partly oral or practical and partly written. Oral and practical tests shall be carried out by examiners appointed by the Board in such manner as the Examinations' Committee may prescribe from time to time. Written tests shall be by means of question papers, and the question papers shall be given out simultaneously at every centre at which the examination is being held.

4. Every candidate for admission to an examination held by the Board shall, not later than the seventh of January each year,—

(*a*) pay the fee prescribed for the examination,
(*b*) state the optional subject or subjects in which he desires to present himself for examination, and

(c) furnish the Secretary with a certificate showing—

(i) that he has completed a regular course of study* in a recognized institution, or

(ii) that he has been permitted by the Board to appear as a private candidate,

(iii) (for **Science candidates of the High School Examination only) that he has actually performed the experiments laid down in the syllabus.

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* **Regulation 4, Chapter XVII—**

The Board shall, for the purposes of a regular course of study, prescribe the †minimum number of meetings of a class that must be held in preparation for any of its examinations.

†NOTE—(1) "The minimum ‡number of days that recognized institutions, including classes XI and XII, will be open will be 180; for other recognized institutions the minimum number will be 200.

(2) No candidate will be presented for the High School Examination by a recognized institution unless he has been present in classes IX and X for at least 75 per cent. of the days the institution was open during two §academical years. The High School course being a two years' course in each subject, a change of subjects in class X is not ordinarily permissible, but in exceptional cases heads of institutions may permit a change of subjects and such cases should be reported to the Board with reasons [*vide* resolution 10(11)(1) of the Board, dated the 10th November, 1932]. The attendance put in by a candidate in a subject which he subsequently changes with the permission of his headmaster or principal should be counted along with his attendance in the new subject for purposes of calculating his percentage of attendance in the new subject (*vide* resolution 5 of the Examinations' Committee, dated the 14th March, 1933).

(3) No candidate will be presented for the Intermediate Examination by a recognized institution unless he has attended at least 75 per cent. of the lectures and practical work (if any) given in each subject in which the candidate is to be examined at the institution during two §academical years. The Intermediate course being a two years' course in each subject, a change of subjects in class XII is not ordinarily permissible, but in exceptional cases heads of institutions may permit a change of subjects and such cases should be reported to the Board with reasons [*vide* resolution 10(11)(2) of the Board, dated the 10th November, 1932]. The attendance put in by a candidate in a subject which he subsequently changes with the permission of his headmaster or principal should be counted along with his attendance in the new subject for purposes of calculating his percentage of attendance in the new subject (*vide* resolution 5 of the Examinations' Committee, dated the 14th March, 1933).

(4) In the case of failed and ¶detained candidates the percentage will be calculated for one academical year only. The attendance put in during the last academical year should be calculated.

(5) The head of a recognized institution may condone a deficiency of not more than (1) six days in the case of a candidate for the High School Examination and (2) six lectures in each subject in the case of a candidate for the Intermediate Examination. All cases in which this privilege is exercised will be reported to the Board.

(6) The Board may, in very special cases, condone a deficiency of not more than (1) fifteen days in the case of a candidate for the High School Examination and (2) fifteen lectures in each subject in the case of a candidate for the Intermediate Examination. These fifteen days or lectures shall include the six days or lectures that may be condoned by the head of an institution."

‡This minimum applies to the institution as a whole and not to attendance in class X or class XII separately (*vide* paragraph 16 of the minutes of the meeting of the Board held on 30th November and 1st December, 1923).

§The two academical years need not be consecutive (*vide* resolution 20 of the meeting of the Examinations' Committee held on 25th January, 1929, adopted by the Board). It is left to the discretion of the heads of institutions to take into account the attendance of any one year in the case of a candidate who has attended class IX for more than one year along with his attendance in class X (*vide* resolution 22 of the meeting of the Examinations' Committee held on 28th January, 1930, adopted by the Board, and resolution 6 of the meeting of the Examinations' Committee held on 20th September, 1930, adopted by the Board.)

¶The term "detained" means detained for any cause either in class X or class XII (*vide* resolution 20 of the meeting of the Examinations' Committee held on 25th January, 1929, adopted by the Board).

The attendance put in by a student at an institution outside the jurisdiction of the United Provinces Board in preparation for an examination which is recognized as equivalent to the Board's High School Examination should count along with that which he will put in at the United Provinces school to which he is subsequently admitted for purposes of completing a regular course of study for two academical years in preparation for the High School Examination (*vide* resolution 7 of the Examinations' Committee, dated the 20th September, 1930, adopted by the Board).

The first academical year in the case of a candidate who is declared successful at the High School Examination as a result of scrutiny of marks and who prior to the announcement of the result joined class X of a High School, should be taken to commence ten days subsequent to the publication of the result of the scrutiny in the *Gazette* (*vide* resolution 3 of the Examinations' Committee, dated the 14th March, 1933, and Board's resolution 18, dated the 8th November, 1933).

**The term "Science" includes "General Science."

5. The following fees shall be paid in respect of the examinations held by the Board :—

(1)	High School Examination	Rupees 15 by each candidate from a recognized institution.
(2)	Ditto ..	Rupees 20 by each private candidate.
(3)	Intermediate Examination	Rupees 25 by each candidate from a recognized institution.
(4)	Ditto ..	Rupees 30 by private candidates.
(5)	Intermediate Examination in Commerce.	Rupees 25 by each candidate from a recognized institution.
(6)	Ditto ..	Rupees 30 by private candidates.
(7)	Intermediate Examination in Agriculture.	Rupees 25 by each candidate from a recognized institution and Rs.30 by each private candidate (if any).
(8)	Examination in one subject only.	Rupees 5.
(9)	Examination in more than one subject.	Rupees 5 for each subject.
(10)	*Fee for checking the results of failed candidates.	Rupees 10 per candidate.

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* The following rules for the scrutiny of marks and the checking of the results of failed candidates have been made by the Board (*vide* Appendix I to the report of the meeting of the Examinations' Committee held on 23rd February, 1923, adopted by the Board) :—

1. Any candidate who has failed at an examination conducted by the Board may apply direct to the Secretary for the scrutiny of his marks and the re-checking of his result.

2. Such applications must be made within one month from the date of the publication of the result (*vide* resolution 43 of the Examinations' Committee, dated the 24th October, 1932, and resolution 25 of the Board, dated the 10th November, 1932).

3. All such applications must be accompanied by a copy of the treasury chalan showing that the prescribed fee of Rs.10 has been paid. In the case of candidates belonging to Indian States this fee must be sent in cash to the office of the Secretary.

4. A candidate shall not be entitled to a refund of the fee unless as a result of the scrutiny he is declared successful in the examination.

5. If on scrutiny and re-checking a failed candidate is found to have passed, his name shall be at once published in the *Gazette* in a supplementary list. In all other cases the result of the scrutiny shall be communicated direct to the candidate as soon as possible.

6. The work of scrutiny does not include re-examination of the answer-books of a failed candidate. It consists of re-checking the marks entered in the answer-books with a view to seeing whether there has been any mistake in totalling the marks assigned to individual questions or in the form of omitting the marks assigned to any question [*vide* resolution 16 of the meeting of the Examinations' Committee held on 8th November, 1928, and resolution 31(*c*) of the meeting of the Board held on 9th November 1928].

7. This scrutiny shall be done in the manner prescribed by the Board from time to time for the scrutiny of answer-books under Regulation 18(*a*). Chapter XII (*vide* resolution 13 of the Examinations' Committee, dated the 2nd February, 1935, and Board's resolution 18, dated the 15th February, 1935).

(11) *Fee for communicating the total marks in each subject obtained by a candidate at an examination.	Rupees 2 per candidate.
(12) Diploma Examination in Indian Music.	Rupees 10 by each candidate from a recognized institution and Rs.15 by each private candidate.
(13) Examination for Certificate in Military Science.	Rupees 5 per candidate:

† provided that women candidates may pay fees for the High School or the Intermediate Examination at half the rates prescribed.

6. A candidate who fails to pass or who from sickness or other sufficient cause is unable to present himself for any examination, shall not receive a refund of his fee :

provided the Board may, on application, admit a candidate who was unable to present himself for any examination to the next ensuing examination without payment of a further fee :

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* The following rules for the communication of marks have been approved by the Board (*vide* paragraph 6 of the report of the meeting of the Examinations' Committee held on 10th February, 1927, adopted by the Board) :—

(1) Only the total marks in each subject obtained by a candidate at an examination will be communicated.

(2) Any candidate desiring to know the total marks in each subject obtained by him at an examination held by the Board shall send an application direct to the Secretary not later than six months ordinarily after the publication of the results in the *United Provinces Government Gazette.* (Resolution 43 of the Examinations' Committee, dated the 24th October, 1932, and resolution 25 of the Board, dated the 10th November, 1932.)

(3) All such applications must be accompanied by a copy of the treasury chalan showing that the prescribed fee of Rs.2 has been paid. In the case of candidates belonging to Indian States this fee must be sent by money order to the Secretary.

N.B.—Fees sent by money order by candidates residing in the United Provinces will not be accepted.

(4) No refund of the fee shall be allowed.

(5) Each application should furnish necessary information on each of the following particulars :—

- (*a*) The name and year of the examination.
- (*b*) The name of the candidate.
- (*c*) His roll number.
- (*d*) The name of his college, or the district of which he was a resident.
- (*e*) The name of his examination centre.
- (*f*) The subjects offered.

† The proviso applies to the fees prescribed for all the examinations that are mentioned in the regulation, but *not* to the fees prescribed for checking the results of failed candidates or for communicating the total marks in each subject obtained by a candidate at an examination (*vide* resolution 5 of the Examinations' Committee, dated the 12th January, 1931, adopted by the Board).

provided also that the fee may not be held over for the next ensuing examination in the case of a candidate who absented himself from a part of the examination.

7. The Secretary shall, after satisfying himself that a candidate has complied with all the requirements for admission to an examination of the Board, furnish the candidate with a card of admission, on presentation of which to the local superintendent of the examination, the candidate shall be permitted to sit for the examination.

8. Notwithstanding anything contained in these Regulations, no candidate who is undergoing rustication at the time of submission of his application form or during the period of examination or who was expelled during the academical year just preceding the date of the examination at which he intends to appear shall be admitted to the examination.

9. The Secretary, if satisfied that a candidate's admission card has been lost or destroyed, may grant a duplicate card on payment of a further fee of Rs. 2.

10. Private *candidates shall be eligible to appear at the Board's examinations on the conditions hereinafter laid down.

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* The following rules for the admission of private candidates to the Board's examinations have been approved by the Board (*vide* Board's resolution 22, dated the 8th November, 1924) :—

1. Permission to appear as private candidates will be given to candidates who have appeared at a previous High School or Intermediate Examination and have failed or to whom permission to appear as private candidates has been given by the Board on a previous occasion.

2. Permission to appear as private candidates at the next ensuing High School or Intermediate Examination will not be granted to candidates who have failed to obtain promotion to the highest class of any High School or Intermediate College (i.e. to those who have been detained in class IX or class XI).

3. (*a*) Private candidates may change their subjects of examination from those previously offered by them, if more than one year has elapsed since their last appearance at the examination; they will not be required to give any reasons for the change.

(*b*) Private candidates who appeared and failed at an examination immediately prior to the submission of their application and desire to offer for the next examination subjects other than those previously offered must give an adequate explanation of the change and show that they can satisfactorily complete the course of study in the new subjects.

4. Candidates residing outside the present territorial jurisdiction of the Board may be permitted to appear at the Board's examinations as private candidates, provided they submit an adequate explanation as to why they prefer to take the United Provinces Board's examination.

5. Where an age-limit or other restriction is imposed by the local University or Examining Body, such restriction shall be rigorously enforced before permission to appear as private candidates at the Board's examinations is granted to outside candidates.

11. A candidate who desires to offer himself for examination as a private candidate shall, not later than the 1st of October preceding the date fixed for the next ensuing examination, send in an application to the Secretary, through the Inspector of Schools of his division or the head of the recognized institution at which he last studied or the Chief Educational Officer of the Indian State where he resides. In the case of a female candidate the application may be forwarded by the head of any institution recognized by the Board. The application should be made in the prescribed form and should set forth :—

(*a*) his age at the time of the application ; in the case of a candidate for the High School Examination who has never attended any institution a declaration by his parents or guardians in support of his age as entered in the application should be furnished along with the application ;

(*b*) the conditions under which he has been studying and is proposing to continue his studies ;

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6. Residents of places beyond the territorial jurisdiction of the Board who have appeared and failed at an examination conducted by the Board or its predecessors may be allowed to appear as private candidates at a subsequent corresponding examination, notwithstanding anything contained in rules 4 and 5 foregoing. Rules 4 and 5 will, however, apply to residents of such places who have passed any examination conducted by the Board or its predecessors and desire to appear for the first time at a higher examination conducted by the Board.

7. Private candidates shall not be allowed to offer for their examination any subject even if the subject is recognized for the examination which is not being taught in a recognized institution or in which no institution is recognized [*vide* Board's resolution 34(*b*), dated the 6th and 7th November, 1925].

8. Private candidates who have passed the Cambridge School Certificate Examination and intend to appear at the Intermediate Examination should specify in the application form the standard of attainment in each of the subjects in which they have passed the Cambridge School Certificate Examination as shown in the detailed result of the examination (*vide* Private Candidates Committee's resolution 7, dated the 3rd October 1925).

9. Permission to appear as private candidates at the High School Examination shall not be given to candidates who have passed the Vernacular Final Examination until three academical years have elapsed since the date of their passing the Vernacular Final Examination, nor shall any students who have left school at a stage earlier than the High School stage be permitted to appear at the High School Examination as private candidates in a year earlier than that in which they would have appeared if they had continued their studies at a recognized institution up to the High School Examination. It should be stated in the application form of Vernacular Final Certificated candidates whether English was offered as a subject in the Vernacular Final Examination (*vide* resolution 4 of the meeting of the Private Candidates' Committee held on 17th—20th October and 1st November, 1928, resolution 33 of the meeting of the Board held on 9th November 1928, paragraph 4 of the report of the meeting of the Private Candidates' Committee held on 23rd, 25th, and 26th October, 1929, and resolution 31 of the meeting of the Board held on 7th November, 1929)

10. All applications from intending private candidates should reach the office of the forwarding officer not later than 24th September preceding the date fixed for the next ensuing examination (*vide* resolution 5 of the meeting of the Private Candidates' Committee held on 17th—20th October and 1st November, 1928, and resolution 33 of the meeting of the Board held on 9th November, 1928).

(c)*the optional subject or subjects which he offers, provided that no practical work or practical examination is prescribed for the subject or subjects so offered.

He should also forward the original copy of the scholar's register granted to him by the institution, if any, at which he last studied.

12. Such applications from intending private candidates shall be referred to the Sub-Committee appointed under Regulation 2, Chapter VI, to scrutinize applications from private candidates.

13. Such applications, after being scrutinized by the Sub-Committee, shall either be granted or rejected by it.

14. Notwithstanding the †definition of "Private candidate" contained in clause (10), Chapter I, any woman candidate, who is not studying at a recognized institution, may be admitted by the Sub-Committee referred to in Regulation 12 above as a private candidate to any of the Board's examinations, provided she fulfils

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* The following subjects prescribed for the Board's examinations should be deemed **subjects** which involve practical work or a practical examination for purposes of this **regulation** and Regulations 14(*a*) and 17 :—

High School Examination.

(1) Physics and Chemistry (except for such private candidates as are referred to in the fourth proviso to Regulation 17).
(2) Agriculture.
(3) Manual Training (except for such private candidates as are referred to in the last proviso to Regulation 17).
(4) Metal Work.
(5) General Science (except for such private candidates as are referred to in the fourth proviso to Regulation 17).

[Private candidates may take Music for the High School Examination on the conditions on which private candidates are allowed to appear at the Diploma Examination in Indian Music *vide* Regulation 1(*b*), Chapter XIII(*a*).]

Intermediate Examination.

(1) Chemistry (except for such private candidates as are referred to in the fourth proviso to Regulation 17).
(2) Physics (except for such private candidates as are referred to in the fourth proviso to Regulation 17).
(3) Biology (except for such private candidates as are referred to in the fourth proviso to Regulation 17).
(4) Economics (except for women candidates and such private candidates as are referred to in the third proviso to Regulation 17).

Intermediate Examination in Commerce.

Nil.

Intermediate Examination in Agriculture.

All subjects *except* English.

†Clause (10) Chapter I—

"Private candidate" means a candidate for admission to an examination conducted by the Board who has not, during any part of the session preceding the examination, studied at an educational institution of any kind.

the other conditions governing the admission of private candidates to the examinations conducted by the Board.

[*]14(*a*). Notwithstanding anything contained in these Regulations, a student who has passed the High School or an equivalent Examination and is studying in an Intermediate class of a college recognized by the Board may be permitted to appear as a private candidate at the High School Examination of the Board in a single subject not involving practical work or a practical examination, and similar permission may be given to a student who has passed the Intermediate Examination and is studying for a higher examination to go up for the High School or the Intermediate Examination in a single subject not involving practical work or a practical examination.

14(*b*). Notwithstanding anything contained in these Regulations, no male married[†] candidates, except those who are married before 1st July, 1929, or who are at the time of marriage not less than eighteen years of age, shall be admitted from any institution recognized by the Board to the High School Examination after the examination of 1930. Such candidates may apply for permission to appear as private candidates only at the High School Examination with effect from the examination of 1931.

14(*c*). Notwithstanding anything contained in these regulations, girls may be permitted to appear either as regular students or as private candidates at the High School Examination with Science or General Science as an optional subject provided they produce a certificate from the head of an institution recognized in that subject showing that they have done in the laboratory of that institution the practical work prescribed in the subject in the Prospectus during or out of school hours.

15. Except when otherwise provided in these Regulations, the names of candidates who have passed an examination of the Board shall

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[*] Students reading in class XII are not allowed to avail themselves of the concession given in Regulation 14(*a*), Chapter XII. Candidates who have passed the High School or Intermediate Examination, but are not reading in a recognized institution or at a University may also avail themselves of the concession given in Regulation 14(*a*), Chapter XII [*vide* resolutions 10(I) and (III) of the Board, dated the 10th November, 1932].

[†] "Marriage" within the meaning of this Regulation means what in Hindustani is called *Shadi*, *Biyah*, or *Nikah* and not *Cauna* or *Rukhsat*.

be placed in three divisions, and further, the names of students from recognized institutions shall be grouped according to the institutions in which they have studied.

16. A candidate who has failed in an examination may present himself for one or more subsequent examinations, provided that he shall on each and every such occasion satisfy the Secretary that he has fulfilled the conditions laid down in the Regulations for the admission of candidates to the Board's examinations.

17. A candidate who has failed in an examination may be admitted to a subsequent examination without attending a regular course of study in a recognized institution, provided—

(*a*) that he has not pursued his studies at an educational institution of any kind ;

(*b*) that, not later than the first of October preceding the date fixed for the next ensuing examination, he sends an application to the Secretary through and recommended by the head of the institution at which he last studied, in the prescribed form, setting out—

(i) the conditions under which he has been studying and is now proposing to continue his studies ;

(ii) the dates of his failing in the examination :

provided, further, that this *Regulation shall not apply to candidates who have taken a subject or subjects for which practical work or a practical examination is prescribed :

provided, that private candidates may be allowed to take Economics as one of their optional subjects if they have studied the subject as regular students at a recognized institution and failed at the Intermediate Examination of a previous year :

provided, that private candidates may be allowed to take Science or General Science as an optional subject for the High School Examination or one or more of the Science subjects Chemistry, Physics, and Biology as optional subjects for the Intermediate Examination on the following conditions :

(*a*) that they have studied the subject or subjects as regular students at a recognized institution and failed at the examination of a previous year ;

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* See the footnote to Regulation 11 (c), Chapter XII.

(*b*) that they produce a certificate showing that they have done in the laboratory of a recognized institution the practical work prescribed in the subject or subjects in the Prospectus during the year preceding the examination at which they intend to re-appear, notwithstanding clause (*a*) of the first proviso foregoing ;

(*c*) that they had passed in the Science subject or subjects at their last appearance for the examination :

provided, lastly, that private candidates may be allowed to take Manual Training as an optional subject for the High School Examination on the following conditions :

(*a*) that they have studied the subject as regular students at a recognized institution and failed at the examination of a previous year ;

(*b*) that they produce a certificate showing that they have done at a recognized institution the practical work prescribed in the subject in the Prospectus during the year preceding the examination at which they intend to re-appear, notwithstanding clause (*a*) of the first proviso foregoing.

18. *Any candidate who has obtained 40 per cent. of the aggregate number of marks, but has failed in one subject only, obtaining not less than 25 per cent. in that subject, shall be admitted to a subsequent examination in the subject in which he failed on payment of the fee prescribed in these Regulations ; and if he passes in that subject he shall be deemed to have passed the examination.

18(*a*). The answer-books of candidates who are eligible for the compartmental examination under Regulation 18, Chapter XII, as well as of those who have failed in one subject only by not more than five per cent. of the marks assigned to that subject, shall be scrutinized in accordance with the rules framed by the Board.

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* Compartmental candidates have the option of appearing at the examination as private candidates, provided they have not pursued their studies at an educational institution of any kind during the session preceding the examination at which they intend to appear and subject to the restrictions laid down in the provisos to Regulation 17, Chapter XII.

Compartmental candidates are not eligible for admission to class XI of a recognized Intermediate College unless and until they have passed *completely* the High School Examination under Regulation 2, Chapter XIII (*vide* Examinations' Committee's resolution 9, dated the 6th February, 1925, adopted by the Board and Examinations' Committee's resolution 9, dated the 5th November, 1930, adopted by the Board).

The prescribed fee for admission to the compartmental examination is Rs.5.

Failed candidates may have two chances of re-appearing at the compartmental examination in two consecutive years immediately following the year in which they appeared at the examination taking all the subjects and were declared eligible for the compartmental examination (*vide* Board's resolution 28, dated the 6th and 7th November, 1925, and paragraph 42 of the report of the meeting of the Examinations' Committee held on 9th November, 1927, adopted by the Board).

19. *Heads of recognized institutions are not permitted to detain candidates who have fulfilled the conditions laid down for permission to appear at one of the Board's examinations except for very unsatisfactory work or some other grave reasons, provided that detention under this Regulation shall not exceed 10 per cent. of the total strength of the class.

CHAPTER XIII.

HIGH SCHOOL EXAMINATION.

1. The following are the subjects prescribed for the High School Examination of the Board :—

Compulsory.

(1) English.
(2) Mathematics.
(3) History *or* Geography.
(4) One of the following Modern Indian Languages :
    Hindi, Urdu, Bengali, Marathi, and Gujarati.

Optional.

(1) One of the following Classical Languages :
    Sanskrit, Arabic, Persian, and Latin.
(2) Commerce.
(3) Physics and Chemistry.
(4) Agriculture.
(5) Drawing.
(6) Manual Training.
(7) A Modern European Language.
(8) Domestic Science.
(9) Metal Work.
†(10) History *or* Geography.
(11) Book-binding.
(12) Spinning and Weaving.
(13) General Science (Physics, Chemistry, and Biology).
(14) ‡Indian Music—Vocal.
(15) Indian Music—Instrumental.

N.B.—Candidates must take up one optional subject for examination, and no candidate will be examined in more than one such subject, in addition to the compulsory subjects, at one and the same examination : provided that a candidate who has passed the High School Examination or an examination equivalent thereto may appear

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* Heads of recognized institutions may exercise their power of detaining students up to three weeks before the commencement of the examination (*vide* resolution 4 of the Examinations' Committee, dated the 14th March, 1933, and Board's resolution 18, dated the 8th November, 1933).

†A candidate taking History or Geography as a compulsory subject must not offer the same subject as an optional subject.

‡Vocal Music involves the accompaniment of an instrument for keeping time, though it is not necessary that the candidate should himself acquire a knowledge of playing the instrument.

at a subsequent High School Examination in one or more subjects, compulsory or optional, in which he has not previously passed the High School Examination; and such a candidate shall, if successful, be entitled to a certificate of having passed the examination in the additional optional subject or subjects offered by him.

2. A candidate is not entitled to a certificate of having passed the High School Examination unless he qualifies separately in each subject offered by him thereat.

3. Diaries shall be kept by all teachers employed in teaching classes preparing for the High School Examination showing the work done in class in each subject taught by them, and such diaries shall be inspected by the oral or practical examiners or by such other authorities as the Board may depute.

4. The question papers set and the written answer-books of all candidates at terminal examination shall also be subject to inspection in such manner and by such authorities as the Board may direct.

5. The head of the institution shall furnish the oral or practical examiner, or such other authority as the Board may appoint, with a list of the candidates undergoing examination in the subject or subjects with which he is concerned, and shall make an entry against each name regarding the proficiency of the candidate as judged by his record therein during the course of study prescribed for the examination.

6. *Cancelled.*

7. Any candidate who has passed a [*]public examination in an Oriental Language (Sanskrit, Persian, or Arabic) or the examination in

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[*] (*a*) The following examinations are recognized by the Board as public examinations in an Oriental Language under this Regulation and Regulation 7, Chapter XIV :—

(1) Maulvi, Alim, Mulla (now defunct), and Fazil in Arabic, and Munshi and Kamil in Persian, conducted by the Education Department of the United Provinces, (2) the Sanskrit Examinations conducted by the Government Sanskrit College, Benares, and by the Benares Hindu University (*vide* Board's resolution 33, dated the 6th and 7th November, 1925, and paragraph 2 of the report of the meeting of the Examinations' Committee held on 4th February, 1926, adopted by the Board), (3) the Diploma Examinations in Arabic, Persian and Sanskrit conducted by the Lucknow University [*vide* Board's resolutions 18 (*g*), dated the 3rd November, 1926 and 30, dated the 16th January, 1935] and (4) the Sanskrit Examinations conducted by the Department of Public Instruction, Jaipur State [*vide* resolution 7 of the meeting of the Examinations' Committee held on 8th November, 1928, and resolution 31(*c*) of the meeting of the Board held on 9th November, 1928].

(*b*) Candidates residing in the United Provinces who have passed an examination (Sanskrit, Persian, or Arabic) of the Oriental Faculty of the Punjab University may also apply for permission to appear at the High School Examination in English only as private candidates (*vide* paragraph 39 of the report of the meeting of the Examinations' Committee held on 9th November, 1927, adopted by the Board).

advanced Urdu or Hindi conducted by the department may be admitted as a *private candidate to the High School Examination in English only, and shall, if successful, be entitled to a certificate of having passed the examination in English only. Similar concession may be given (1) to candidates residing in the United Provinces, who have passed an examination in a vernacular language (Hindi or Urdu) conducted by the Oriental Faculty of the Punjab University, (2) to Drawing Masters working in institutions †recognized by the Board who have read up to the High School standard, (3) to candidates who have passed the Vernacular Upper Middle Examination for girls conducted by the department, (4) to teachers of Manual Training working in institutions †recognized by the Board, and (5) to teachers of Music workingin in stitutions †recognized by the Board who have read up to the High School standard.

8. ‡Candidates for the High School Examination are permitted to answer questions in English, Urdu, or Hindi in all subjects other than English.

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* Under Regulation 7, Chapter XIII, candidates who are studying English only in recognized institutions may also appear as school or college candidates in English only at the High School Examination [*vide* resolution 10(V) of the Board, dated the 10th November, 1932].

†Includes Middle English Schools (Resolution 7 of the Examinations' Committee, dated the 19th February, 1932).

‡ This Regulation should be read in the light of the following notes :

(1) A candidate for the High School Examination may answer questions in English in one or more subjects and in Hindi or Urdu in the remaining subjects in which a vernacular medium is permitted.

(2) The option of using a vernacular medium of examination has been given in the following subjects *only* and in the following manner *with effect from* the date noted against each :—

(*a*) Sanskrit and Hindi—through the medium of English or Hindi.	High School Examination of 1927.
(*b*) Arabic, Persian, and Urdu—through the medium of English or Urdu.	
(*c*) History and Geography—through the medium of English, Hindi, or Urdu.	
(*d*) Agriculture—through the medium of English, Hindi, or Urdu.	
(*e*) Mathematics—through the medium of English, Hindi, or Urdu on condition that in case of the vernacular medium, English Geometrical terms may be used.	High School Examination of 1929.
(*f*) Domestic Science—through the medium of English, Hindi, or Urdu.	
(*g*) Physics and Chemistry—through the medium of English, Hindi, or Urdu on condition that in case of the Vernacular medium, English scientific technical terms may be used.	High School Examination of 1931.
(*h*) General Science—through the medium of English, Hindi, or Urdu on condition that in case of the Vernacular medium, English scientific technical terms may be used.	High School Examination of 1933.

CHAPTER XIII(*a*).

DIPLOMA EXAMINATION IN INDIAN MUSIC.

1. The Diploma Examination in Indian Music shall be open to—
   - (*a*) candidates who have completed a regular course of study for two academical years at an institution recognized by the Board for the examination ;
   - (*b*) private candidates eligible under the Regulations, including—
     - (i) regalar students going up for the High School or Intermediate Examination who desire to appear as private candidates for the Diploma Examination in Indian Music in the same year ;
     - (ii) private candidates permitted by the Board to appear at the High School or Intermediate Examination of the same year ;
     - (iii) candidates who failed at the Diploma Examination in Indian Music of any previous year ;
     - (iv) teachers actually engaged in teaching in any educational institution in the United Provinces ;
     - (v) candidates who have already passed the High School or Intermediate Examination and would like to qualify themselves in Music with a view to joining the advanced courses in Music in any University or Music institution.

2. The courses of study for the examination shall be as may be laid down in the Prospectus from year to year.

CHAPTER XIV.

INTERMEDIATE EXAMINATION.

1. Every candidate for admission to the Intermediate Examination shall be required to have passed the Board's High School Examination, or to have passed an examination which by Regulation is declared equivalent thereto, before entering upon the course of study prescribed for the Intermediate Examination.

2. The following examinations are declared equivalent to the Board's High School Examination for the purpose of enabling candidates to enter upon the course of study prescribed for the Intermediate Examination :

   (1) the Matriculation Examination of any University established by law in India approved for the purpose by the Board. (The Matriculation Examinations of the following Universities are approved by the Board: Allahabad, the Punjab, Bombay, Calcutta, Madras, Patna, *Benares, and *Aligarh) ;

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* By Matriculation Examination of the Benares Hindu and Aligarh Muslim Universities the Admission Examination of the former and the High School Examination of the latter are meant.

(2) the School-Leaving Certificate Examination of the United Provinces, or of another province, provided this examination is accepted as equivalent to Matriculation by the University established by law in that province ;

(3) the Cambridge School Certificate (formerly called Senior Local) Examination, provided a student has passed in five of such subjects as are recognized for the High School Examination of the Board of High School and Intermediate Education, United Provinces and provided, further, that a candidate who has passed the Cambridge School Certificate Examination in less than five full subjects may, prior to appearing at the Intermediate Examination, pass the Cambridge School Certificate Examination in one or more additional subjects so as to make up five full subjects ;

(4) the Diploma Examination of the Chiefs' Colleges ;

(5) the High School Examination for European Schools in the Central Provinces and in other provinces ;

(6) the High School Certificate Examination of the Board of High School Education, Central Provinces ;

(7) the Anglo-Vernacular High School and the English High School Examinations of Burma ;

(8) the London University Matriculation Examination ;

(9) the English School-Leaving Certificate Examination of the Travancore State ;

(10) the High School-Leaving Certificate Examination of Hyderabad (Deccan), provided a candidate has passed in class I or class II ;

(11) the Secondary School-Leaving Certificate Examination of Mysore, provided a candidate has been declared eligible for admission to a University course ;

(12) the Diploma Examination of the Royal Indian Military College, Dehra Dun, so long as the syllabus and the standard of the examination continue to be the same as those of the examination recognized in the foregoing clause (4) ;

(13) *the High School Examination of the Board of Secondary Education, Delhi, provided a candidate has passed the examination with an additional subject under Regulation 3, Chapter XII of the Delhi Board's Regulations, and provided, further, that he has passed in five full subjects excluding Elementary Economics and (except in the case of female candidates) Physiology and Hygiene, and Domestic Science; provided, lastly, that a candidate who has passed the High School Examination of the Delhi Board in less than five full subjects may, prior to appearing at the Intermediate Examination, pass the High School Examination of the Delhi Board in one or more additional subjects so as to make up five full subjects;

(14) the High School Examination of the Board of High School and Intermediate Education, Rajputana (including Ajmer-Merwara), Central India, and Gwalior, Ajmer;

(15) the Dufferin Final Passing Out Examination of the Indian Mercantile Marine Training Ship "Dufferin";

(16) the Secondary School-Leaving Certificate Examination of the Kochin State, provided the holder of the certificate

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* A candidate who has passed the High School Examination of the Delhi Board in English, Mathematics and any †three of the following subjects is eligible to enter upon the course of study prescribed for the Intermediate Examination :—

(1) A Classical Language (Sanskrit, Arabic, Persian, Hebrew, Latin, or Greek).
(2) Physics and Chemistry.
(3) Any two of the following as one subject :
  I. Indian History.
  II. English History.
  III. General Geography.
  IV. Commercial Geography.
  V. Elementary Economics.
(4) Agriculture.
(5) Drawing.
(6) An Indian Vernacular.
(7) French.
(8) Any two of the following as one subject (Commerce) :—
  I. Business or Commercial Practice
  II. Elementary Book-keeping.
  III. Indian System of Accounts.
(9) Domestic Science (for female candidates only).
(10) Physiology and Hygiene (for female candidates only).

(*Vide* resolution 7 of the Examinations' Committee, dated the 12th January, 1931, adopted by the Board.)

† At least one of these three subjects must be taken from among subjects numbered (1), (2), (3), and (9), the last subject intended for female candidates only.

has been declared eligible for admission to the University course of study by the Madras University ;

(17) the Matriculation Examination of the National University, Ireland.

3. No candidate shall be admitted to the Intermediate Examination unless two academical years shall have elapsed since the date of his or her passing the High School or an equivalent examination :

*provided that candidates who have passed the Cambridge School Certificate (Senior Local) Examination may be admitted to the Intermediate Examination in the academical year following that in which they pass the Cambridge School Certificate Examination.

4. Any student who has kept one academical year at a college affiliated to the Universities of Calcutta, Madras, Bombay, Patna, Benares, the Punjab, Nagpur, Delhi, Aligarh, or Rangoon or recognized by the Board of High School and Intermediate Education, Rajputana (including Ajmer Merwara), Central India, and Gwalior, Ajmer, after matriculation, may be allowed a year corresponding to that which he has so kept, provided he produces a satisfactory certificate from the Principal of a college affiliated to the Universities of Calcutta, Madras, Bombay, Patna, Benares, the Punjab, Nagpur, Delhi, Aligarh, or Rangoon or recognized by the Board of High School and Intermediate Education, Rajputana (including Ajmer-Merwara), Central India, and Gwalior, Ajmer, that the corresponding year has been duly kept according to the regulations in force at the University or of the Board from which he has †migrated, and that the said Principal has no objection to his transfer.

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* Candidates intending to appear under this proviso are eligible to appear as private candidates also, provided they fulfil the necessary conditions [*vide* Board's resolution 24 (last paragraph), dated the 8th November, 1924].

† The Board has framed no rules nor prescribed any form regarding migration of students from or to its territorial jurisdiction. A candidate intending to migrate to a place outside the jurisdiction of the Board should communicate with the Circle Inspector of Schools through the head of his last institution. In case the candidate is a resident of a place outside the United Provinces, he should communicate with the head of his last institution.

This regulation (Regulation 4, Chapter XIV) applies to candidates for the Intermediate Examinations in Commerce and Agriculture also (*vide* Resolution no. 19 of the Examinations' Committee, dated the 28th March, 1931, and Resolution no. 15 of the Board, dated the 5th November, 1931).

5. Every candidate for the Intermediate Examination shall be examined in English and any three of the following subjects:—

(1) Mathematics.
(2) Chemistry.
(3) Physics.
(4) Biology.
(5) Drawing.
(6) Economics.
(7) Civics.
(8) History and Allied Geography.
(9) Histories of Greece and Rome and Allied Geography.
(10) Geography.
(11) Logic.
(12) A Modern Indian Language (Urdu or Hindi or Bengali or Marathi or Gujarati), *or* a Modern European Language (German or French).
(13) *A Classical Language, viz. Sanskrit, Arabic, Persian, Latin, Greek or Hebrew.
(14) †Physiology, Hygiene and Child-Study (for girls only).
(15) Physiology, Hygiene and Elementary Psychology (for boys only).

6. Any candidate who has passed the Intermediate Examination of the Board or an examination‡ equivalent thereto may appear at any subsequent Intermediate Examination or Examinations conducted by the Board in any§ subject in which he has not previously passed the Intermediate Examination, provided that in the case of a subject for which practical work or a practical examination is prescribed he produces evidence satisfactory to the Board that he has completed the practical course prescribed for the subject.

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* Hindi may be used as the medium of instruction and examination optionally with English in Sanskrit and Urdu as the medium of instruction and examination optionally with English in Arabic and Persian for the Intermediate Examination (*vide* resolution 2 of the Examinations' Committee dated the 20th July, 1934, and Board's Resolution no. 28, dated the 16th January, 1935).

† A special subject intended to prepare girls either for the teaching profession or for domestic life (*vide* Board's resolution no. 3, dated the 8th November, 1924).

‡ The Intermediate Examination in Commerce or Agriculture may be regarded as equivalent to the Intermediate Examination only for the purpose of appearing at the Intermediate Examination in an additional optional subject under Regulation 6, Chapter XIV [*vide* Board's Resolution no. 5(III), dated the 10th February, 1934].

§ Under Regulation 6, Chapter XIV, a candidate may offer more than one subject for the Intermediate Examination in a subsequent year [Resolution no. 10(III) of the Board, dated the 10th November, 1932].

7. *Any candidate who holds a certificate of having passed the High School Examination in English only under Regulation 7, Chapter XIII, or of having passed an examination equivalent to the High School Examination in English only under similar conditions, may be admitted as a †private candidate to the Intermediate Examination in English only, provided at least one academical year shall have elapsed since the date of his or her passing the High School or an equivalent examination in English, and such a candidate shall, if successful, be entitled to a certificate of having passed the examination in English only.

CHAPTER XIV(*a*).

EXAMINATION FOR CERTIFICATE IN MILITARY SCIENCE.

1. Every candidate for admission to the Examination for Certificate in Military Science shall be required to have passed the Board's High School Examination or an examination equivalent thereto and to have, since the passing of this examination, (1) prosecuted a regular course of study for not less than two academical years at an institution recognized by the Board for the examination for certificate in Military Science and (2) been a member of the University Training Corps or the Auxiliary Force for not less than one year previous to his appearance at the examination.

2. The following are the subjects of examination which may be added to or altered in such manner as the Board may, from time to time, decide :

Theory.

(1) Military History as illustrated by the Mesopotamian Campaign (1914—18).
(2) Organization of the Land Forces.
(3) Characteristics of weapons and fighting troops.
(4) Elementary map reading.

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* Passing the High School Examination in all subjects may be accepted as a fulfilment of the condition of passing in English required in this Regulation, provided that the candidate has also passed a recognized public examination in an Oriental Language or the examination in advanced Urdu or Hindi conducted by the department [*vide* Board's resolution no. 34(*a*), dated the 6th and 7th November, 1925, and Private Candidates Committee's resolution no. 3, dated the 23rd, 25th and 26th October, 1929, adopted by the Board].

† Candidates who are studying English only in recognized institutions may also appear as school or college candidates in English only at the Intermediate Examination [*vide* Resolution no. 10(V) of the Board, dated the 10th November, 1932].

Practice.

(1) Performance of all movements in the ranks in squad and platoon drills.

(2) Duties of a Section Commander in platoon and section drill.

(3) Musketry (rifle only)—Care of arms, firing positions, range and discipline.

3. The subject Military Science should be studied as a special optional subject in addition to the subjects recognized for the Intermediate Examination or the Intermediate Examination in Commerce or the Intermediate Examination in Agriculture.

CHAPTER XV.

INTERMEDIATE EXAMINATION IN COMMERCE.

1. Every candidate for admission to the Intermediate Examination in Commerce shall be required to have passed the Board's High School Examination or an examination *equivalent thereto, and to have, since the passing of this examination, prosecuted a regular course of study for not less than two academical years at an institution recognized by the Board for the Intermediate Examination in Commerce.

2. †Inspecting officers of an Education department and teachers in schools and colleges recognized by the Board may be admitted to this examination as private candidates by special permission of the Board, provided that by the date of the examination not less than two academical years shall have elapsed since the date of their passing the High School Examination or an examination equivalent thereto.

3. The following are the subjects of examination. These may be arranged in alternative groups in such manner and with such additions and alterations as the Board may, from time to time, decide :—

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* *See* Regulation 2, Chapter XIV.

† Failed candidates of the Intermediate Examination in Commerce may also be admitted to a subsequent examination as private candidates under Regulations 16 and 17, Chapter XII (*vide* paragraph 6 of the report of the meeting of the Committee of Courses in Commerce held on the 8th November, 1923).

Compulsory.

(1) English.
(2) Book-keeping and Accountancy.
(3) Business Methods and Correspondence.
(4) (*a*) Elementary Economics.
  (*b*) Commercial Geography.

Optional.

One of the following :—
(1) Steno-typing (shorthand and typewriting).
(2) Elements of Banking.
(3) Elements of Industrial Organization.
(4) Mathematics.

4. Any candidate who has passed the Intermediate Examination in Commerce (formerly called the Commercial Diploma Examination) of the Board or an examination equivalent thereto, may appear at any subsequent Intermediate Examination in Commerce conducted by the Board in any subject in which he has not previously passed the Intermediate Examination in Commerce.

CHAPTER XV(*a*).

INTERMEDIATE EXAMINATION IN AGRICULTURE.

1. Every candidate for admission to the Intermediate Examination in Agriculture shall be required to have passed the Board's High School Examination, or an examination equivalent *thereto, and to have, since the passing of this examination, prosecuted a regular course of study for not less than two academical years at an institution recognized by the Board for the Intermediate Examination in Agriculture :

provided that a candidate who has passed the Intermediate Examination of the Board or an examination equivalent thereto with Chemistry and Biology as optional subjects may be admitted to the Intermediate Examination in Agriculture after prosecuting a regular course of study for not less than one academical year since the date of his passing the aforesaid examination at an institution recognized by the Board for the Intermediate Examination in Agriculture.

**See* Regulation 2, Chapter XIV.

2. The following are the subjects of examination arranged in groups. The Board may make such additions and alterations in them as it may, from time to time, decide :—

Group I.—Chemistry and Physics.
Practical Chemistry and
Practical Physics.

Group II.—Botany and Zoology.
Practical Botany and
Practical Zoology.

Group III.—Physical properties of soil, Soil Geology, Climatology.
Tillage and Plant Feeding, Principles of Manuring.
Principles of Irrigation and Drainage.
Practical Farming.
Practical A.—Crop Culture.
Practical B.—Farm Machinery, including ploughing and other tillage operations.
Practical C.—Animal Husbandry.

Group IV.—English.
Prose text-books, books recommended for general study, unseens and grammar.
Translation and Composition.

Group V.—Economics *or* Mathematics.

3. Any candidate who has passed the Intermediate Examination in Agriculture (formerly called the Agricultural Diploma Examination) of the Board or an examination equivalent thereto, may appear at any subsequent Intermediate Examination in Agriculture conducted by the Board in any subject in which he has not previously passed the Intermediate Examination in Agriculture.

MAXIMUM AND MINIMUM MARKS ASSIGNED TO THE VARIOUS SUBJECTS FOR THE EXAMINATIONS OF 1937.

High School Examination.

Maximum marks	150 in English and 100 in every other subject.
Minimum pass marks	50 in English and 33 in every other subject.

Diploma Examination in Indian Music.

Maximum marks	100.
Minimum marks	33.

Intermediate Examination.

Maximum marks	150 in English and 100 in every other subject.
Minimum pass marks	50 in English and 33 in every other subject.

Intermediate Examination in Commerce.

Maximum marks	100 in each subject.
Minimum pass marks	33 ditto.

Intermediate Examination in Agriculture.

Maximum marks	100 in groups I and II each, 150 in group III and 50 in groups IV and V each.
Minimum pass marks	33 per cent. in each group.

Distinction.

Minimum marks required	75 per cent. of the aggregate marks in a subject.

Division.

Minimum pass marks required for Division I.	60 per cent. in the aggregate.
Minimum pass marks required for Division II.	45 per cent. in the aggregate.
Minimum pass marks required for Division III.	33 per cent. in the aggregate.

TEXT-BOOKS AND SYLLABUS
FOR
THE BOARD'S EXAMINATIONS OF 1937.

HIGH SCHOOL EXAMINATION.

(*N.B.*—It is left to the discretion of the examiners to set alternative questions in all subjects for the High School Examination.)

A.—COMPULSORY SUBJECTS.

I.—ENGLISH.

Three papers, each of three hours, will be set (1) on the prescribed course in Prose and Poetry with questions on Grammar and Idiom, (2) on Unseen Passages with questions on Grammar and Idiom, (3) *passages in a Modern Indian Language for translation into English and a simple narrative or descriptive composition in English. There will be a *fourth* paper, of half an hour, designed to test the candidate's knowledge of arrangement of paragraphs, spelling, punctuation and the use of capital letters.

Text-books prescribed for detailed study :

Group A.—

1. High School Prose, by A. Jha (Rai Sahib Gulab Singh & Sons, Lahore).
2. Modern High School Prose Selections, by D. P. Khattry (Oxford University Press). Re.1.
3. A Reader in Modern English Prose, by Brown (Macmillan & Co.). Re.1.

Group B.—

1. Some Triumphs of Modern Exploration, by Webster Smith (Blackie & Son). Duxeen binding, Re.1.
2. Bellis : Paths of Peace, Part IV (Oxford University Press).
3. Heroes of Faith and Knowledge, by E. D. Scott (George Harrap, Ltd.).

(*Omitting* the Chapters on Moses, Plato, Plutarch, Dante, Erasmus, Ignatius Loyola, Luther, Leonardo da Vinci, Browning, Booth.)

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* These passages will be a rendering from English.

Group C.—

1. An Anthology of Verse, by E. J. Thompson (Macmillan), Re.1, from which the following poems are prescribed :

   The Ballad of Lady Rosabelle ; The Slave's Dream ; John Gilpin ; The Child's First Grief ; The Mountain and the Squirrel ; Lead, Kindly Light ; Breathes There ; The Only Son ; The Poet's Dream ; Kubla Khan ; The Brook ; Poems from Gitanjali.

2. High School Poetry (Revised edition), (Indian Press, Ltd., Allahabad), from which the following poems are prescribed :

   The Burial of Sir John Moore ; The Last Minstrel ; Jaffar ; John Gilpin ; Hohenlinden ; How They Brought the Good News ; Yussouf ; The Deserted Village ; The Ocean ; An Evening Walk ; The Poor ; The Little Black Boy ; The Mountain and the Squirrel ; Frolic ; A Consecration.

3. A Book of Select English Poems, by Chablani, Chopra and Gupta (Rai Sahib Gulab Singh & Sons, Lahore).

   (*Omitting* Milton ; Scott's Lochinvar ; Byron's Ocean ; Shelley's Cloud ; Keats's Autumn ; Tennyson's Wild Bells ; Mrs. Browning's Sonnet ; Dela Mare's Listeners).

NOTE.—Teachers are advised to see that students use the Anthologies named in the Prospectus and no inaccurate reprints of the actual poems prescribed.

N.B.—*The above text-books are arranged in three groups—A, B, and C. Group A contains books of Prose Selections, Group B books of Inspirational Stories, and Group C books of Poetry. Every school must select for study one book only from each of the above groups.*

Books recommended for rapid reading and indicating the standard of the unseen passages to be set in the second paper :

1. Booker T. Washington : Up From Slavery (George Harrap, Ltd.).
2. The Golden Deeds of India, First Series, by L. and H. G. D. Turnbull (Oxford University Press).
3. Rider Haggard : She (Abridged—Longmans, Green & Co.).
4. Shakuntala (Longmans, Green & Co.).
5. Shakespeare in Prose (Blackie).

6. Kerrin : Legends from Greece and Rome (Ram Narain Lal, Allahabad).
7. Fournier : The Wonders of Physical Science (Macmillan).
8. In England (Macmillan).
9. Reade : Cloister and the Hearth (Abridged—Macmillan's English Literature Series).
10. The Exploits of Brigadier Gerard (Oxford University Press).
11. Stories from Tagore (Macmillan).
12. Stevenson : Treasure Island (Oxford University Press).
13. The Story of Little Nell (Blackie).
14. Wyatt : Stories from Shakespeare (Oxford University Press).
15. Yonge : The Little Duke (Indian Press School Classics).
16. Stories from the Poets (George G. Harrap & Co.).
17. Men of Science (George G. Harrap & Co.).
18. The Story of the Ramayana (Indian Press, Ltd., Allahabad).
19. Reading in English (Gaya Prasad & Sons, Agra).
20. Stories of Robin Hood (Nelson).
21. Tom Browne's School Days (Abridged Oxford edition).
22. Morrier : Hajji Baba (Abridged—Macmillan).
23. Robinson Crusoe (Victory Series).
24. Mukerji : Ancient Indian Fasts and Feasts (Macmillan).
25. Tales from Shakespeare, Part II (Indian Press, Ltd., Allahabad).
26. A Book of Stories (Ram Narain Lal, Allahabad).
27. In Other Lands (Uttar Chand Kapur, Lahore).
28. Tod's Annals of Rajasthan (Rai Sahib Ram Dayal Agarwala, Allahabad).
29. Guy Mannering (P. T. I. Book Depot, Bangalore).
30. Don Quixote (Victory Series).
31. Oliver Twist (Indian Press).
32. Stories from the Poets (Harrap).
33. The Paladins of India (Oxford University Press).
34. The Stories of the Buddha (Ram Prasad & Bros., Agra).
35. Socrates Persists in India (Oxford University Press).

Recommended for use by students :

The Little Oxford Dictionary.

II.—MATHEMATICS.

There will be two papers, each of three hours—one in Arithmetic and Algebra and the other in Geometry and Mensuration.

SYLLABUS.

(1) Arithmetic and Algebra.

The four simple rules ; British and Metric systems of measurement ; Factors ; Prime numbers ; H. C. F. and L. C. M. ; Decimal and vulgar fractions (including conversion of a recurring decimal to a vulgar fraction and conversely) ; Square Root ; Ratio and Proportion ; Average ; Percentages ; Profit and Loss ; Interest, simple and compound ; Present Worth and Discount (true and commercial) ; Areas and volumes ; Simple equations of one or more unknown quantities ; Quadratic equations of one unknown quantity ; Graphs of statistics ; Graphs of straight lines and graphical solution of linear simultaneous equations ; Problems.

N.B.—*Candidates will be provided with squared paper, if necessary.*

(2) Geometry and Mensuration.

The course includes theoretical, practical, and numerical Geometry, and every candidate will be expected to answer questions in both branches of the subject. The questions on practical Geometry will be set on the constructions contained in the annexed Schedule A, together with easy extensions of them. All figures should be drawn accurately, for which purpose every candidate should provide himself with a graduated scale, a pair of set squares, a protractor, a compass, and a hard pencil. The questions on theoretical Geometry will consist of theorems and problems contained in the annexed Schedules A and B, together with easy extensions and deductions with numerical illustrations. Any proof of a proposition will be accepted which appears to the examiners to form part of a systematic treatment of the subject ; the order in which the theorems are stated in Schedule B is not imposed as the sequence of their treatment. In the proof of the theorems hypothetical constructions will be permitted.

N.B.—*Candidates will be provided with squared paper, if necessary.*

SCHEDULE A.

Bisection of angles and of straight lines.

Construction of perpendiculars to straight lines.

Construction of an angle equal to a given angle.

Construction of parallels to a given straight line.

Simple cases of the construction from sufficient data of triangles and quadrilaterals.

Division of straight lines into a given number of equal parts.

Construction of a triangle equal in area to a given polygon.

Construction of tangents to a circle and of common tangents to two circles.

Simple cases of the construction of circles from sufficient data.

Construction of a rectangle equal to a given polygon.

Construction of a rectangle on a given base equal in area to a given rectangle.

Construction of a square equal to a given rectangle.

Construction of a rectangle of given area the sum or difference of whose sides is given. (These constructions should be based on the propositions on the geometry of the circle.)

Construction of regular figures of 3, 4, 6, or 8 sides in or about a given circle.

Mensuration of triangles and simple rectilineal figures ; finding their area by means of field book ; application of formulae for length of circumference and for area of a circle in terms of its radius.

SCHEDULE B.

Angles at a point.

If a straight line stands on another straight line, the sum of the two angles so formed is equal to two right angles ; and the converse.

If two straight lines intersect, the vertically opposite angles are equal.

Parallel straight lines.

When a straight line cuts two other straight lines, if—

(i) a pair of alternate angles are equal, or

(ii) a pair of corresponding angles are equal, or

(iii) a pair of interior angles on the same side of the cutting line are together equal to two right angles, then the two straight lines are parallel; and the converse.

Straight lines which are parallel to the same straight line are parallel to one another.

Triangle and rectilineal figures.

The sum of the angles of a triangle is equal to two right angles.

If the sides of a convex polygon are produced in order, the sum of the angles so formed is equal to four right angles.

If two triangles have two sides of the one equal to two sides of the other, each to each, and also the angles contained by these sides equal, the triangles are congruent.

If two triangles have two angles of the one equal to two angles of the other, each to each, and also one side of the one equal to the corresponding side of the other, the triangles are congruent.

If two sides of a triangle are equal, the angles opposite to these sides are equal; and the converse.

If two triangles have the three sides of the one equal to the three sides of the other, each to each, the triangles are congruent.

If two right-angled triangles have their hypotenuses equal and one side of the one equal to one side of the other, the triangles are congruent.

If two sides of a triangle are unequal, the greater side has the greater angle opposite to it; and the converse.

Of all the straight lines that can be drawn to a given straight line from a given point outside it, the perpendicular is the shortest.

The opposite sides and angles of a parallelogram are equal, each diagonal bisects the parallelogram and the diagonals bisect one another.

If there are three or more parallel straight lines and the intercepts made by them on any straight line that cuts them are equal, then the corresponding intercepts on any other straight line that cuts them are also equal.

Areas.

Parallelograms on the same or equal bases and of the same altitude are equal in area.

Triangles on the same or equal bases and of the same altitude are equal in area.

Equal triangles on the same or equal bases are of the same altitude.

Illustrations and explanations of the geometrical theorems corresponding to the following algebraical identities :—

$k(a+b+c+\ldots)=ka+kb+kc+\ldots$,

$(a+b)^2=a^2+2ab+b^2$.

$(a-b)^2=a^2-2ab+b^2$.

$a^2-b^2=(a+b)(a-b)$.

The square on a side of a triangle is greater than, equal to, or less than the sum of the squares on the other two sides according as the angle contained by these sides is obtuse, right, or acute. The difference in the case of inequality is twice the rectangle contained by one of the two sides and the projection on it of the other.

In any triangle the sum of the squares on two sides is equal to twice the square on half the third side together with twice the square on the median which bisects the third side.

Loci.

The locus of a point which is equidistant from two fixed points is the perpendicular bisector of the straight line joining the two fixed points.

The locus of a point which is equidistant from two intersecting straight lines consists of the pair of straight lines which bisect the angles between the two given lines

The Circle.

A straight line drawn from the centre of a circle to bisect a chord which is not the diameter is at right angles to the chord ; conversely, the perpendicular to a chord from the centre bisects the chord.

There is one circle and one only which passes through three given points not in a straight line.

In equal circles (or in the same circle), (i) if two arcs subtend equal angles at the centres, they are equal ; (ii) conversely, if two arcs are equal, they subtend equal angles at the centre.

In equal circles (or in the same circle), (i) if two chords are equal, they cut off equal arcs ; (ii) conversely, if two arcs are equal, the chords of the arcs are equal.

Equal chords in a circle are equidistant from the centre; and the converse.

The tangents at any point of a circle and the radius through the point are perpendicular to one another.

If two circles touch, the point of contact lies on the straight line through the centres.

The angle which an arc of a circle subtends at the centre is double that which it subtends at any point on the remaining part of the circumference.

Angles in the same segment of a circle are equal, and if the line joining two points subtends equal angles at two other points on the same side of it, the four points lie on a circle.

The angle in a semi-circle is a right angle, the angle in a segment greater than a semi-circle is less than a right angle, and the angle in a segment less than a semi-circle is greater than a right angle.

The opposite angles of any quadrilateral inscribed in a circle are supplementary; and the converse.

If a straight line touch a circle and from the point of contact a chord be drawn, the angles which this chord makes with the tangent are equal to the angles in the alternate segments.

If two chords of a circle intersect either inside or outside the circle the rectangle contained by the parts of the one is equal to the rectangle contained by the parts of the other.

The following books are suggested :—

For *Arithmetic*—

1. Workman, adapted by Sime and revised by Parkinson : A New Arithmetic for Indian Schools (Rai Sahib Gulab Singh & Sons, Lahore).
2. Oudh Upadhya : New Arithmetic (Ram Narain Lal, Allahabad).
3. S. B. L. Kapoor : High School Arithmetic (Agarwal Press, Allahabad).
4. A. S. Sinha : A New Arithmetic (P. C. Dwadash Shreni & Co., Aligarh).
5. Baleshwar Upadhyaya : A New High School Arithmetic (G. R. Bhargava & Sons, Chandausi).

For *Algebra*—

1. Ross : Elementary Algebra, Part I (Longmans, Green & Co.).
2. Baker and Bourne : Elementary Algebra, Part I (G. Bell & Sons).
3. H. S. Hall : School Algebra, Parts I and II (Macmillan & Co.).
4. A. Thom : Complete Elementary Algebra (Robert Gibson & Sons, Ltd., Glasgow—Agents—The Indian School Supply Depot, Calcutta) (Cloth binding, Rs.2).
5. M. A. Butt : Algebra for High Schools (Rai Sahib Gulab Singh & Sons, Lahore).
6. Shiva Sagar Misra : High School Graphs (Gautam Bros., Cawnpore).
7. S. T. Hussain and F. M. Khan : Simple Algebra, Parts I and II (P. C. Dwadash Shreni & Co., Aligarh).

For *Geometry*—

1. Hall and Stevens : A Shorter School Geometry, Parts I and II (Macmillan & Co.).
2. Parkinson and Pressland : A Primer of Geometry (Clarendon Press, Oxford), (Indian edition). Re.1-12.
3. Pierpoint's Elements of Geometry.
4. The New Sequence Geometry, by Gray and Smith (The Grant Educational Company), (to be had of the Indian School Supply Depot, Calcutta).
5. Analytic Geometry, Part II, by S. B. L. Kapoor (Agarwal Press, Allahabad).
6. Lessons in Geometry, Parts I and II, by S. N. Chatterjee (Macmillan & Co.), Part I for Rs.1 and Part II for Rs.1-4.

III.—HISTORY.

There will be two papers, each of three hours

(i) Indian History and Allied Geography, and

(ii) English History and Allied Geography.

N.B.—Candidates are expected to draw free-hand maps of India and Great Britain and Ireland.

Indian History.

Indian History in outline from the earliest times to 1919.

The following syllabus is suggested :

I—The influence of Geography on Indian History.

II—Ancient India—

A.—First period from the earliest times to 600 B.C.

1. The Dravidians.
2. The Aryan immigration.
3. Character of culture—
    (a) Vedic religion—outline.
    (b) Vedic society—caste, woman.
    (c) Literature—Veda (Brahman, Upanishad, Smriti).

B.—Second period from 600 B.C. to 180 B.C.

1. Life and teaching of Buddha.
2. Mauryas, Asoka.
3. Culture—
    (a) Dharma.
    (b) Government.

C.—Third period from 180 B.C. to A.D. 650.

1. Sungas, Kanvas, Satavahanas and Sakas.
2. Yuechis, Kushanas, Kanishka.
3. Guptas—Samudragupta, Chandragupta Vikramaditya.
4. Harsha.
5. Culture—
    (a) Religion—Puranas, Epics, toleration.
    (b) Literature—Kalidasa.
    (c) Art—Ajanta, Amaravati.

D.—Fourth period from A.D. 650 to A.D. 1200.

1. The origin of Rajputs.
2. Rajput Kingdoms, Chauhans, Chandels, Gaharwar (Rathor).
3. The South—Pandyas, Pawars, Cholas, and Keralas.
4. The Deccan—Yadavas, Chalukyas, Rashtrakutas.

III.—Medieval India—

A.—Early medieval—

1. Life and teaching of Muhammad.
2. The Arab expansion.
3. The Turks and their kingdoms.

4. Turkish invasions—
    - (*a*) Mahmud of Ghazni.
    - (*b*) Muhammad Shahab-ud-din Ghori.
    - (*c*) The Slave kings—Balban and Mongol invasions.
    - (*d*) The Khiljis, Ala-ud-din and conquest of the south.
    - (*e*) The Tughlaks—Muhammad and Firoz—break-up of early medieval empire.
    - (*f*) Provincial principalities and invasions of Timur.
    - (*g*) The Hindu Kingdoms of the south.
    - (*h*) Culture.

Religion—Kabir.

Literature—Growth of Modern Indian Languages.

B.—Later medieval—

(*a*) 1. Sayyads and Lodis—Dissensions.
- 2. Babar and Humayun—Conquest and failure.
- 3. Sher Shah.
- 4. Akbar—Conquest and Consolidation.
- 5. Jahangir, Shahjahan—prosperity.
- 6. Aurangzeb—
    - Religious quarrels.
    - Conquest of the south.
- 7. Successors of Aurangzeb
    - Decay of Empire.

(*b*) Mahrattas—Shivaji—The struggle with the Mughals—The Peshwas up to 1761.

(*c*) Sikhs—Nanak and Guru Govind Singh.

(*d*) Early European settlements, 1600—1708.

1. Portuguese—Discovery of the route from Europe to India.
2. Dutch—Settlement in the Spice Archipelago.
3. English—Embassies to Mughal emperors and establishment of factories.
4. French—Establishment of factories.

(*e*) Culture—
    Religions, Bhakti movement.
    Art—Taj.
    Literature 1. Hindi—Tulsidasa, Surdasa, Rahim, Malik Muhammad Jaisi.
        2. Urdu.

IV.—Modern India—

A.—1. Struggle between the Empire and the Mahrattas.
    2. Break-up of the Empire and the establishment of Subedars.
    3. Sikhs—Ranjit Singh.
    4. Mahratta and other Indian States.

B.—1. Struggle of the European Powers. The French and the British (1700—1763).
    2. Struggle between the English and Indian princes (1756—1774). Conquest of Bengal.

C.—British rule, 1774—1857—
    1. Warren Hastings—
        (i) Regulating Act.
        (ii) Internal difficulties.
        (iii) Wars with the Indian rulers.
    2. Cornwallis—
        (i) The permanent settlement.
        (ii) Wars with the Indian rulers.
    3. Wellesley—
        (i) The subsidiary alliance system.
        (ii) The French rivalry.
        (iii) Wars and expansion of British territory.
    4. Minto—Embassies to Asiatic Powers.
    5. Hastings—Nepal war, Mahratta wars.
    6. Bentinck—Reforms.
    7. Auckland and Ellenborough—Afghan wars.
    8. Hardinge—Punjab war.
    9. Dalhousie—Completion of dominion.

D.—British rule, 1857—1918—

(*a*) Wars and expansion—
    1. Afghanistan.
    2. Burma.

(*b*) Internal developments—

1. Constitutional, 1861, 1892, 1902, 1919.
2. Local Self-Government.
3. Education.
4. Justice.
5. Administration.

(*c*) National movements—

1. Hindu reforms.
2. Muslim reforms.
3. Growth of Nationalism, Indian National Congress.

The following books indicating the scope and standard of knowledge required are recommended :

1. R. D. Banerji : History of India (Blackie & Sons, London).
2. Thompson : History of India (Christian Literature Society, Madras).
3. Ishwari Prasad : Students' History of India in Hindi and Urdu, second edition (Indian Press, Ltd., Allahabad).
4. Dr. N. C. Banerji : A Text-book of Indian History (Mondal Bros. & Co., Calcutta).
5. Rama Shankar Prasad : Hamare Desh ki Itihas (Hindi and Urdu). (K. P. Press and Printing School, Allahabad.)
6. Dr. Tara Chand : A Short History of the Indian People (Macmillan & Co.). Rs.2-8.

The following atlases are recommended :

1. Students' Atlas of Indian History (Macmillan).
2. Joppen : Historical Atlas (Macmillan).

English History.

English History in outline from A.D. 1066 *to* 1914.

The following syllabus is suggested :

I.—The influence of Geography on English History.

II.—English History, 1066—1216.

1. William the Conqueror—

   Feudalism.

2. The Angevins—
   Formation of the English nation.
   Foundation of liberties—political institutions, law and justice.
   Religion and Church.
   The Great Charter.
3. The Plantagenets, 1216—1399.
   Henry III—beginning of Parliament.
   Edward I—Establishment of Parliament, Development of Union of England, Wales, and Scotland.
   Edward I's successors—Growth of Parliament.
   Social changes—Black death, Peasants' revolt, etc.
   Religious reform—Wycliff.
4. Lancastrians, 1399—1485.
   Growth of Parliament.
   Growth of Trade and Commerce.
   Barons' war and decline of Feudalism.

NOTE.—The study of political events is subsidiary to institutional developments.

III.—History of England, 1485—1688—

A.—Tudors, 1485—1603—
1. Monarchy and Parliament.
2. Religious changes and movements.
3. Growth of Commerce.
4. Discoveries and beginning of colonial and sea power.
5. Relations with European Powers.

B.—Early Stuarts, 1603—1649—
1. Monarchy and Parliament.
2. Religious developments—Puritans and other sects.
3. Commercial and Colonial expansion.
4. Civil War.

C.—The Commonwealth, 1649—1660—
1. Cromwell—
   (*a*) Scotland and Ireland.
   (*b*) European Powers, navigation laws.
   (*c*) Growth of Puritans.
   (*d*) Parliament.

D.—Latter Stuarts, 1660—1688—
- 1. Parliament—
  - (*a*) Parties.
  - (*b*) Cabinet.
- 2. Relations with European Powers—France and Holland.
- 3. Colonial and Commercial expansion.

IV.—Constitutional Government, 1688—1914—

A.—William and Mary and Anne, 1688—1714—
- 1. Bill of Rights.
- 2. Parliament—
  - (*a*) Whigs and Tories.
  - (*b*) Cabinet.
- 3. Affairs of Ireland.
- 4. Relations with European Powers and growth of Colonial Power.

B.—Early Hanoverians, 1714—1763—
- 1. Walpole, Pitt.
- 2. European wars.
- 3. Colonial expansion.

C.—Latter Hanoverians, 1763—1830—
- 1. Industrial Revolution.
- 2. American Revolution.
- 3. French Revolution, Wars with France.
- 4. Ireland—Union.

D.—Rise of Democracy, 1830—1914—
- (i) Reform Acts.
- (ii) Home rule for Ireland.
- (iii) Growth of British Empire.
- (iv) Careers of Peel, Palmerston, Disraeli, Gladstone.
- (v) Relations of England with the European States, e.g. France, Germany and Russia.

N.B.—*Students are expected to have a knowledge of " Representation of the People Act,* 1918 "

The following books indicating the scope and standard of knowledge required are recommended :

1. Gardiner, S. R. : Outlines of English History (Longmans, Green & Co.).

2. T. F. Tout : A History of Great Britain, Book II (Longmans).

3. Guest, G. : Outlines of British History (Oxford University Press).

4. Visheshwar Prasad : A History of England (Gautam Bros., Cawnpore).

5. S. C. Kapur : History of Modern England (Hindi and Urdu editions, revised) (Indian Press, Ltd., Allahabad).

The following atlases are recommended :

1. S. R. Gardiner : A School Atlas of English History (Longmans, Green & Co.).

2. Macmillan's Atlas of the British Empire.

or

Geography.

There will be two papers, each of three hours' duration, as follows :

Paper I.—General Geography of the World outside of India. (Sections I and II of the syllabus.)

Paper II.—India and its world relations. (Section III of the syllabus.)

Syllabus.

I.—(*a*) Shape of the Earth ; rotation and revolution ; duration of day and night ; the seasons. Latitude and longitude. The commoner map projections, treated simply.

(*b*) Outlines of the relief and drainage of the lands and study of the chief land-forms. The hydrosphere : ocean currents, waves and the phenomena of tides.

(*c*) The atmosphere. Weather and climate. Study and measurement of temperature, pressure and rainfall Climate. Seasonal distribution over the globe of temperature, pressure and rainfall ; study of wind-belts, Ferrel's Law, Buys Ballot's Law, cyclones and anti-cyclones. Chief types of climate.

(*d*) Practical exercises based on simple contour maps.

II.—(*a*) The world treated according to its major natural regions. Knowledge of the principles of physical geography and of the geographical distributions should be applied to the study *in outline* of the major natural regions of the world.

(*b*) The influence of his environment on man, his activities, his industries ; exchange of commodities ; communications ; growth of towns.

III.—Geography of India in fuller detail. Its relations, physical and climatic, with contiguous areas ; its commercial relations with the world in general.

Books recommended :

I, As text-books :—

Morrison : Our World (abridged edition), (Macmillan). Rs.2-8.
Stamp : The World (Longmans). Rs.3.
Morrison : Junior Geography of India (Nelson). 12 annas.
French and Stamp : The Indian Empire (Longmans).
H. Pickles : India, World and Empire (Oxford). Rs.2-4.
Wallis : Practical Exercises in Geography (Macmillan). 1*s*.
Fairgrieve and Young : Junior Contour Exercise Book (Philip). 9*d*.

Stamp : Geographical Exercise Books for India, Part I (Longmans). 12 annas.

Sohan Lal : Modern Geography of the World (Urdu and Hindi editions), (Indian Press, Allahabad).

Ram Narain Misra : Geography of India (Urdu and Hindi editions) (Bhugol Karyalaya, Prayag).

Bartholomew : Indian School Atlas (Oxford Press). Re.1-6.

Visual Contour Atlas (Philip). 1*s*. 4*d*.
Collins's Clear Type Atlas.
II. As reference books for students :—

Unstead and Taylor : Essentials of World Geography (Philip). 2*s*.

Fairgrieve and Young : The World (Philip). 2*s*. 6*d*.

Kermack : New Geography of the World (Johnston). 3*s*.

E. C. and L. D. Stamp : Practical Atlas of Modern Geography (George Gill & Sons). Re.1-12.

Phillip's sets of synthetic maps (for students' use). 1*s*. per packet.

Phillip's Modern School Atlas of Physical, Political, and Commercial Geography. 7*s*. 6*d*.

Lyde : Man and His Markets (Macmillan). 3*s*.

Herbertson : Man and His Work (Black). 1*s*. 6*d*.

Davis : Elementary Physical Geography (Ginn). 5*s*. 6*d*.

Mackay : The Oxford Picture Geographies (Oxford Press). 2*s*. 6*d*. each.

Goodchild : Geography and Man (Ram Narain Lal, Allahabad). Rs.2.

Lay : World Geography, Books I—III (Macmillan), 1*s*., 1*s*. 3*d*. and 2*s*. 3*d*. respectively.

L. D. Stamp: Real Life Geography (George Gill & Sons). Re.1.

III. As books of reference for teachers :

Newbigin : Man and his Conquest of Nature.

Hardy : Plant Geography (Oxford University Press).

Newbigin : Animal Geography (Oxford University Press).

Brooks : The World (London University Press). 7*s*. 6*d*.

Herbertson (F. D.) : Clarendon Geographies. Vols. I and II, 4*s*. each.

Chisholm : Smaller Commercial Geography (Longmans). 5*s*.

Skeats : Principles of Geography (Oxford Press). 5*s*. 6*d*.

Mill : The Realm of Nature (Murray). 5*s*.

Lands and Their Stories. Books I to VII (Blackie).

Peeps at Many Lands (Black). 2*s*. 10*d*. each.

The Indian Year Book (Times of India Office, Bombay). Rs.5-4.

Wallis : Macmillan's Geographical Exercise Books, Northern Continents. 1*s*.

Wallis : Macmillan's Geographical Exercise Books, Southern Continents. 1*s*.

Phillip's Sets of Maps of the Continents and of India with explanatory Handbooks. Prices vary according to style of mounting. Eyeletted style recommended.

IV.—MODERN INDIAN LANGUAGES.

There will be two papers, each of three hours' duration, in each of these* languages—one paper will be set in Prose Text, Unseen, and Grammar, the other in Poetry Text and Composition.

*NOTE—There shall be in the second paper a passage in simple English prose for translation into a Modern Indian Language as a compulsory part of the examination in Modern Indian Languages.

The following are the text-books prescribed:

Hindi.

(*a*) *Prose*—

(1) गद्य रत्नावली, by Rai Bahadur Shyam Sundar Das (Indian Press, Ltd., Allahabad), Re.1,

or

(2) गद्य-गौरव, by Padma Singh Sharma (Sahitya Publishing House, Cawnpore), Re.1,

or

(3) गद्य-रत्न संग्रह, by C. S. Vajpai (Educational Publishing House, Benares), Re.1.

(*b*) *Poetry*—(1) हिन्दी पद्य-पारिजात, by Misra and Barthwal (Nagari Pracharini Sabha, Benares), (omitting lessons 1, 3, and 4) रसचषक, Re. 1,

or

(2) पद्य—कल्पद्रुम (Revised edition), by Narottam Das Swami (Gaya Prasad & Sons, Agra), (Card bound edition Re.1),

or

(3) काव्य-कौमुदी, by "Rasal" (Agarwal Press, Allahabad).

Special attention should be paid to composition. The following books are recommended for grammar and composition:

(1) रचना प्रबोध, by Ram Ratna (Ratnashram, Agra).
(2) निबंध—चंद्रिका, by Ram Narain Chaturvedi (Ram Charan Lal, Lucknow).
(3) संक्षिप्त-हिन्दी व्याकरण, by Kamta Prasad Guru (Nagari Pracharini Sabha, Benares).
(4) *Hindi Unseens, Part I*, by S. S. Avasthi (Agarwal Press, Allahabad).
(5) रचना प्रभाकर, by Ganga Prasad Upadhyaya (Rai Sahib Ram Dayal Agarwala, Allahabad).

(6) High School Hindi Vyakaran, by Ganga Prasad (Rai Sahib Ram Dayal Agarwala, Allahabad).

(7) Hindi Rachana (Gaya Prasad & Sons, Agra).

Books recommended for supplementary reading :

(1) महाराष्ट्र केसरी, by Tara Charan Agnihotri (Ram Prasad & Bros., Agra).

(2) शकुन्तला नाटक, by Lakshman Singh (Ratnashram, Agra).

(3) प्रताप-प्रतिज्ञा, by Jagannath Prasad " Milinda " (Hindi Bhawan, Lahore).

(4) उज्ज्वल तारे, by Ayodhya Nath Sharma (Indian Press, Ltd., Allahabad).

(5) चरित्र चित्रण, by Mahavir Prasad Dwivedi (Hindi Press, Allahabad).

(6) सप्त सुमन, by Prem Chandra (Nand Kishore Bros., Benares).

(7) रूपक रत्नावली, by Ram Chandra Varma (Sahitya Ratnamala Karyalaya, Benares).

(8) वीरोपाख्यान, by Chandra Shekhar Shastri (Sahitya Bhawan, Ltd., Allahabad).

(9) भीष्म, by Rup Narain Pandeya (students' edition). (Hindi Granth Ratnakar Karyalaya, Bombay). Re. 1-4.

(10) गल्पाञ्जली, by Har Datt Sharma and A. N. Sharma (University Book Depot, Delhi). Re. 1-4.

(11) स्काउटिंग और ग्राम सेवा, by Shri Ram Bajpai (Leader Press, Allahabad). Re. 1.

(12) पुण्य पर्व, by Seyaram Sharan Gupta (Sahitya Sadan, Chirgaon, Jhansi). 12 annas.

(13) सुधांशु, by Rai Krishna Das (Bharati Bhandar, Benares). 12 annas.

(14) राज्य श्री, by Jai Shankar Prasad (Bharati Bhandar, Benares). 10 annas.

NOTE—Candidates are expected to read at least three books recommended for supplementary reading in the above list.

Urdu

Text-books prescribed :

1. قند اردو Qand-i-Urdu, by Jalaluddin Ahmad (Anwar-i-Ahmadi Press, Allahabad); (revised edition, 1926).

or

گلدستۂ ادب Guldasta-i-Adab, by Pandit M. L. Zutshi (Indian Press, Ltd., Allahabad).

2. Nazm-i-jadid (نظم جدید), by Professor Abdul Mannan, M.A. (Lala Ram Charan Lal, Lucknow).

3. جواہرات نثر Jawahirat-i-Nasr, by Makhmoor of Agra (Ram Prasad & Bros., Agra).

Grammar recommended :

(1) تسہیل القواعد حصہ سوم Tashil-ul-Qawaid, Part III (Indian Press, Ltd., Allahabad),

or

(2) عمدۃ القواعد Umdat-ul-Qawaid, by Jalaluddin (Anwar-i-Ahmadi Press, Allahabad),

or

(3) High School Urdu Grammar (Rai Sahib Ram Dayal Agarwala, Allahabad).

The following books are recommended for supplementary reading and they indicate the standard of the passages to be set as "Unseen" :

(1) توبۃالنصوح by Dr. Nazir Ahmad.
(2) پریم بتیسی حصہ اول by Prem Chand.
(3) Ba Kamalun ke Darshan (باکمالوں کے درشن), by Munshi Prem Chand (Lala Ram Narain Lal, Allahabad).

Bengali.

Text-books prescribed :

Prose—

"Matriculation Bengali Selections," published by the Calcutta University (prose portion only), (revised 1933 edition), of which the following pieces are omitted :

(1) "Atma Jiban," by Devendra Nath Tagor.
(2) "Niti Siksha", by Ganga Prasad Mukerjee.
(3) "Balmiker Jai", by Hara Prasad Shastri.
(4) "Mahatya", by Kaliprasanna Ghosh.
(5) "Matsarjya", by Aswini Kumar Datta.
(6) "Dip Nirbana," by Swarna Kumari Devi.
(7) "Janma Bhumi," by Balendra Nath Tagor.

(8) " Elleesh Jatak ", by Ishan Chandra Ghosh.

(9) " Premer Thakur ", by Khagendra Nath Mitra.

(10) " Kabi Ferdausir Prativa," by Mohammad Barkatullah.

Poetry—

" Kabya—Prativa ", by K. C. Sinha (Indian Press, Ltd., Allahabad), Re.1-4, of which the poems by the following authors are omitted :

1. Vidyapati.
2. Chandidas.
3. Kirttibas Ojha.
4. Krishna Das Kabiraj.
5. Mukundaram.
6. Bharat Chandra Rai.
7. Dasharathi Rai.
8. Rajkrishna Rai.
9. Mohit Lal Mazumdar.
10. Jagat Mohan Sen.
11. Kazi Najrul Islam.
12. Prativa Debi.

Recommended for supplementary reading :

(1) " Banga Gaurava", by Rai Bahadur Jaladhar Sen (Macmillan & Co.).

(2) " Arya Kirti", by Rajani Kanta Gupta.

Grammar recommended :

" Bhasha Bodh Vyakaran ", by Nakuleshwara Vidyabhushan, Re.1.

Marathi.

Text-books prescribed :

Paper I, Poetry—The following selections as published in the latest edition of " Navnit " :

(१) वामन पंडिता चे स्फुट श्लोक, पानें (१३३-१४३)

(२) मोरोपंत—कर्ण पर्वांतील कर्णार्जुन युद्धाच्या आर्या, पानें (३३०-३४६)

Paper II, Prose—उषःकाल (a novel), by Hari Narayan Apte.

Book recommended for rapid reading :

महाराष्ट्र वाङमय प्रवेशिका, भाग १–२, by G. G. Kanitkar (Macmillan & Co.).

Grammar—R. B. Joshi's Marathi Grammar " Praudhabodha. "

Recommended for the use of teachers :

(1) Marathi Grammar, by M. K. Damle (published by the Inderprakash Press, Bombay).

(2) मराठी ची सजावट in two volumes, by G. G. Mujumdar, teacher, Sangli High School, Sangli.

Gujarati.

Text-books prescribed :

Paper I, Prose—Patanniprabhuta, by K. M. Munshi (Messrs. N. M. & Co., Book-sellers, Kalbadevi Road, Bombay).

The following books are recommended for supplementary reading under paper I :

(1) Gujarat-ni-jüni Vartão, by Manilal Chhabaram Bhatt.

(2) Otarati Diwalo, by Kaka Kalelkar.

Paper II, Poetry—(1) Kusummala by N. B. Divatia.
(2) Vadlo, by Krishnalal Sridharani.

For Grammar the following book is recommended :

Madhyama Gujarati Vyakarana, by K. P. Trivedi (N. M. Tripathi, Bombay).

B.—OPTIONAL SUBJECTS.

I.—CLASSICAL LANGUAGES.

There will be two papers, each of three hours, in each of these languages—the first paper will be in the Prescribed Texts and Grammar, and the second paper in Translation, Composition and Unseen.

SYLLABUS.

(*a*) Sanskrit.

Paper I—(a) Text-books prescribed :

1. Sahitya Sangraha, by Sri Ram Srivastava (Gautama Bros., Meston Road, Cawnpore).

2. Sanskrita Praveshika, by Shankar Deva Pathak [Chandra Sanskrit Pustakalaya, Brindaban (Muttra)].

NOTE—The students should be taught to understand the passages, give their context and substance, and to learn the analysis of compounds, sandhis and the prose order of the poetry pieces.

(b) Grammar—

NOTE—Questions on Grammar should be asked from the prescribed text-books and books recommended for Grammar and they should carry about one-third of the total marks of the paper.

I—Sandhis covered by the following sutras. It is not necessary to learn the sutras :

(*a*) स्वरसन्धि—

(1) इको यणचि ।

(2) एचोऽयवायावः ।

(3) आद्गुणः ।

(4) वृद्धिरेचि ।

(5) एङः पदान्तादति ।

(6) अकः सवर्णे दीर्घः ।

(*b*) हलसन्धि—

(1) स्तोश्चुनाश्चुः ।

(2) ष्टुना ष्टुः ।

(3) झलां जशोऽन्ते ।

(4) झलां जश् झशि ।

(5) खरि च ।

(6) मोऽनुस्वारः ।

(*c*) विसर्गसन्धि—

(1) विसर्जनीयस्य सः ।

(2) ससजुषो रुः ।

(3) अतो रोरप्लुतादप्लुते ।

(4) हशि च ।

(5) एतत्तदोः सुलोपोऽकोरनञ् समासे हलि ।

(6) भोभगो अघोअपूर्वस्य योऽशि ।

II—Declension of the following nouns and others of the same kind :

(*a*) पुंलिङ्ग—राम, हरि, सखि, गुरु, कर्तृ, पितृ, गो, भूभृत्, भगवत्, करिन्, आत्मन्, राजन् ।

(*b*) स्त्रीलिङ्ग—रमा, मति, नदी, धेनु, वधू, वाच्, सरित् ।

(c) नपुंसक—गृह, वारि, दधि, मधु, पयस्, शर्मन्, जगत्, नामन्, मनस्।

(d) सर्वनाम—सर्व, पूर्व, तद्, यद्, किम्, युष्मद्, अस्मद्, इदम्।

(e) *Numerals.* From एक to दशन् in all genders.

III—*Conjugation* of the following roots in लट्, लङ्, लोट्, विधिलिङ्, लृट्।

(a) भ्वादि—भू (P), हस् (P), पठ् (P), रक्ष् (P) वद् (P), पच् (P), नम् (P), गम् (P), दृश् (P), सद् (P), स्था (P), स्मृ (P), पा (P), जि, सेव् (A), लभ्, वृध् (A), मुद् (A), सह् (A), याच्, (U), नी (U), हृ (U).

(b) अदादि—अद् (P), अस् (P), ब्रू (P), रुद् (P), दुह् (P), स्वप् (P), हन् (P), इ (P), आस् (A), शी (A).

(c) जुहोत्यादि—हु (P), भी (P), दा (P).

(d) दिवादि—दिव् (P), तुष् (P), नश् (P), भ्रम् (P), युध् (A) जन् (A).

(e) स्वादि—सु (U), आप् (P), शक् (P).

(f) तुदादि—तुद् (P), इष् (P), स्पृश (P), प्रच्छ (P), मृ (A), मुच् (U).

(g) रुधादि—रुध् (U), भुज् (U).

(h) तनादि—तन् (U), कृ (U).

(i) क्र्यादि—क्री (U), ग्रह् (U), ज्ञा (U).

(j) चुरादि—चुर् (U), चिन्त् (U), कथ् (U), and भक्ष् (U).

P—Stands for परस्मैपद, A—Stands for आत्मनेपद।

U— · · · उभयपद।

IV—*Compounds*—General definition, with illustrations of the ollowing Samasas : तत्पुरुष, कर्मधारय, बहुव्रीहि, द्वन्द्व।

Paper II—Translation, Composition and Unseen :

(a) Selected passages from books recommended for rapid reading and from others of equal difficulty for translation into English or Hindi ; and (b) translation of easy English or Hindi prose passage or sentences into Sanskrit and (c) composition of simple sentences in Sanskrit.

Books recommended for rapid reading and for composition :

(1) Ratnasamuchchay, by Ratna Chandra (Standard Literature Co., Allahabad).

(2) Sanskrit Sahityasopan (City Book House, Cawnpore).

(3) A Manual of Sanskrit Composition, by Lalleram Tewari (National Press, Allahabad).

(4) प्रवेशिका संस्कृत रचनानुवाद शिक्षा, by महामहोपाध्याय पण्डित रघुनन्दन त्रिपाठी साहित्याचार्य ।

N.B.—Sanskrit must be written in Devanagari characters.

(*b*) Arabic.

Prescribed course :

Paper I—(*a*) Prose and Poetry.

عربی هائي اِسکول کورس

نثر

١ — الحكايات من نفحة اليمن

١ — قيل لما هرب موسى بن عمران

٢ — عن القاضي يحيى بن اكثم الى يستخدم ضيفه

٣ — قيل ان ملک الشام

۴ — قيل ان ملک الصين بلغه

٥ — قيل ان الحجاج خرج يوما

٦ — قيل ان بعض الحكماء لزم

٧ — قيل دخل حسن بن الفضل

٨ — قيل ان الهدهد قال لسليمان

٩ — قيل نزل رجل الاكالين

١٠ — قيل ان بهرام الملک خرج

١١ — قيل ان المامون تكلم يوما

١٢ — قيل كان رجل له غلام

١٣ — دخل لص دار مالک بن دينار

١۴ — قال بعض الحكماء الفرس

١٥ — قيل ان رجلا اتى سليمانم
١٦ — قيل اصطحب اسد و ثعلب
١٧ — سال بعض الملوك وزيره
١٨ — قيل ان رجلا جلس يوما يا كل
١٩ — ذكر صاحب حياة الحيوان
٢٠ — قيل لقيس بن سعد هل رايت
٢١ — قيل ان عليا رضى الله عنه
٢٢ — قيل ان الرشيد جمع اربعة من الاطباء

٢ — الامثال من نفحة اليمن

100 *mathals* from the beginning.

٣ — الاسفار من الف ليلة و ليلة

١ — السفر الثاني من اسفار السندباد البحري *
٢ — السفر الثالث ايضا ايضا

٤ — الفضائل والنقائص

الباب الخامس من الجزء الاول من مجانى الادب *

٥ — اوصاف البلاد

١ — مكة المكرمة - من الرحلة الحجازية
٢ — الحرم المدنى ايضا
٣ — اصبهان من مجانى الادب
٤ — بلخ ايضا
٥ — بيت المقدس ايضا
٦ — بيروت من مجاني الادب
٧ — تبت ايضا
٨ — حلب ايضا
٩ — دمشق ايضا
١٠ — شيراز ايضا
١١ — دلى ايضا
١٢ — الصين ايضا
١٣ — عمان ايضا
١٤ — مليبار ايضا

نظم

١ — من ديوان سيدنا على بن ابى طالب

١ — الناس من جهة التمثال اكفاء
٢ — لبيك لبيك انت مولاه
٣ — امن بعد تكفين النبى و دفنه
۴ — احسين انى واعظ و مؤدب
٥ — تغطى عيوب المرء كثرة ماله
٦ — و افضل قسم الله للمرء عقله
٧ — ليس البلية فى ايامنا عجبا
٨ — كن ابن من شئت و اكتسب ادبا
٩ — ايها الفاخر جهلاً با النسب
١٠ — سليم العرض من حذر الجوابا
١١ — و ذى سفه يواجهنى بجهل
١٢ — اذا شئت ان تقلى فزر متواترا
١٣ — قد شاب راسى و راس الحرص لم يشب
١۴ — كنا كزوج حمامة فى ايكة
١٥ — شيئان ان بكت الدماء عليهما
١٦ — انما الدنيا فناء ليس للدنيا ثبوت
١٧ — الم تر ان الدهر يوم وليلة
١٨ — قد كنت ميتاً فصرت حيا
١٩ — تغرب عن الاوطان فى طلب العلى
٢٠ — تمنى رجال ان اموت و ان امت

From از دارالعرب by Muhammad Ibn Yusuf As-Surati (Jami'a-i-Milliyya Press, Delhi) :

١ — اغر عليه للنبوة خاتم
٢ — ولا خير في عيش امرئ لم يكن له
٣ — لقد نصحت لاقوام و قلت لهم
۴ — عجبت لمبتاع الضلالة بالهدى
٥ — بقدر الكد تكتسب المعالى
٦ — اني رايت و فى الايام تجربة

٧ — و ليس فتى الفتيان من راح و اغتدى
٨ — و لو ان ما اسعى لادنى معيشة
٩ — ولا خير فى عيش امرئٍ و هو خامل
١٠ — تعلم فليس المرء يولد عالما
١١ — علمى معى حيثما يممت ينفعنى
١٢ — اخى لن تنال العلم الا بستة
١٣ — اخو العلم حى خالد بعد موته
١٤ — ولا تتكل الا على ما فعلته
١٥ — هى النفس ما حملتها تتحمل
١٦ — اذا انقطت عنى من العيش قدلى
١٧ — ايا من عاش فى الدنيا طويلاً
١٨ — تامل بعينك هذا الانام
١٩ — وما المرء الا الاصغران لسانه
٢٠ — و كائن ترى من صامت لك معجب
٢١ — اذا قل ماء الوجه قل حياؤه
٢٢ — لنا جلساء لا نمل حديثهم
٢٣ — خذ من اخيك العفو و اغفر ذنوبه

(*b*) Grammar :

(1) مرآة العربية (Parts I and II), by 'Abdul Hadi Khan, Professor, Commercial College, Delhi,' to be had of the author,

or

(2) مبادی العربية Shartuni (Majidi Press, Cawnpore).

N.B.—**Questions on Grammar exclusively should be asked from the prescribed book as far as possible, and should carry about one-third of the total marks.**

Paper **II—Translation, Composition and Unseen :**

(*a*) Selected passages for translation into Urdu.

(*b*) Translation of English prose into Arabic.

The following two books are recommended for supplementary reading and they indicate the standard of the unseen passages to be set :

(1) فوائد الادب (published by Gulab Singh & Sons). 1933 pages 1 to 138 omitting ‘ Tamrins.’

(2) Either مجاني الادب Part 1 (Beirut, 1929), pages 61 to 136,

or

مدارج القراة (published by Anwar Ahmadi Press, Allahabad).

Note—Arabic words must be written in Arabic characters.

(*c*) Persian.

Prescribed course

Paper I—(a) Text :

Prose.

1. Guliſtan :

(الف) سبب تاليف كتاب - يكشب تامل ايام گذشته مي كردم .... مانده بود
كه كتاب گلستان تمام شد -
(ب) باب اول - در سيرت بادشاهان :—
(۱) حكايت اول - بادشاهے را شنيدم كه بكشتن اسيرے .... جز نكو گويد -
نصيحت بر طاق ايوان فريدون .... بر روے خاک -
(۲) حكايت دوم - يكے از ملوک خراسان .... فلان نماند -
(۳) حكايت سوم - ملكزاده را شنيدم .... در بند اقليمی دگر -
(۴) حكايت چهارم - طائفهٔ دزدان عرب .... بجاے نيک مردان -
(۵) حكايت پنجم - سرهنگ زاده را .... كه آفتاب سياه -
(۶) حكايت ششم - يكے را از ملوک عجم .... زبردستي روزگار
(۷) حكايت هفتم - بادشاهے با غلام عجمی .... اعراف بهشت است -
(۸) حكايت هشتم - يكے از ملوک عجم .... حذر بكنيد -
(۹) حكايت نهم - هرمز را گفتند .... چشم پلنگ -
(۱۰) حكايت دهم - ببالين تربت .... نهند آدمی -
(۱۱) حكايت يازدهم - درويشے مستجاب .... مردم آزاري -
(۱۲) حكايت دوازدهم - يكے از ملوک .... مرده به -
(۱۳) حكايت سيزدهم - يكے را از ملوک شنيدم .... گرد آيند -
(۱۴) حكايت چهاردهم - يكے از بادشاهان .... در عالم -
(۱۵) حكايت پانزدهم - يكے از وزراء .... نيازارد -
مثل سياه گوش را .... نديمان بگذار
(۱۶) حكايت شانزدهم - يكے از رفيقان .... سوراخ كردم -

(۱۷) حکایت هفدهم - تنی چند از روندگان .... بی بر سنگ -
(۱۸) حکایت هجدهم - ملک زاده گنج .... نکو گذاشت -
(۱۹) حکایت نوزدهم - آورده اندکه .... مرغ بسیخ -
(۲۰) حکایت بستم - عاملی را دیدم .... مردم آزار -
باز آمدیم بحکایت .... لعنت پایدار -

(۲۱) حکایت بست و یکم - مردم آزاری .... مغزش برار -
(۲۲) حکایت بست و دوم - یکی را از ملوک .... پای پیل -
(۲۳) حکایت بست و سوم - یکی از بندگان .... نشستي -
(۲۴) حکایت بست و چهارم - ملک زوزن .... اهل خرد -
(۲۵) حکایت بست و پنجم - یکی از ملوک عرب .... آستان دارد -
(۲۶) حکایت بست و ششم - ظالمی را .... بهم برکند - لطیفهٔ برتاج ...
بخواهد رفت -

(۲۷) حکایت بست و هفتم - یکی در صنعت .... نشانه نکرد -
(۲۸) حکایت بست و هشتم - درویشی مجرد .... دست بدست -
(۲۹) حکایت بست و نهم - یکی از وزراء .... ملک بودی -
(۳۰) حکایت سي ام - بادشاهی بکشتن .... برخاست
(۳۱) حکایت سي و یکم - وزرای نوشیروان .... پروین -
(۳۲) حکایت سي و دوم - شیادی .... کسل کنند -
(۳۳) حکایت سي و سوم - یکی از پسران .... باطل نگوید -
(۳۴) حکایت سي و چهارم - باطائفه بزرگان .... کارها باشد -
(۳۵) حکایت سي و پنجم - دو برادر .... دوتا -
(۳۶) حکایت سي و ششم - کسی مژده .... جاودانی نیست -
(۳۷) حکایت سي و هفتم - گروهی حکماء .... گناه است -
(۳۸) حکایت چهلم - اسکندر رومی .... پایدار -

(ج) باب چهارم - در فوائد خاموشي

(۱) حکایت اول - یکی از دوستان .... موشک کور -
(۲) حکایت دوم - بازرگانی .... شادي کنان -
(۳) حکایت سوم - جوانی خردمند .... دلیلش بیار -
(۴) حکایت پنجم - جالینوس .... ندانی -
(۵) حکایت ششم - سحبان .... ریس -
(۶) حکایت هفتم - یکی را از حکماء .... خموش -
(۷) حکایت هشتم - تنی چند .... یافت -
(۸) حکایت نهم - در عقد .... ارزد -

(۹) حکایت دهم - یکے از شعراء .... درمے چند -
(Instead of اینچه .... مردمانند
read این چه مردمانند)
(۱۰) حکایت دوازدهم - خطیبے .... عیب خویش -

2. سفرنامهٔ ناصرالدین شاه (سفر انگلستان) from دوم ذیقعده روز دوشنبه to اینها مي رقصیدند

3. Anwar-i-Suhaili انوار سهيلي by ملا حسین واعظ کاشفي Chapter I up to خود کرده را تدبیر نیست

Poetry.

۱ — بوستان
(الف) باب اول - در عدل و راے و تدبیر جهانداري -
(۱) نگنجد کرمهاے .... بندهٔ حق گذار -
(۲) حکایت - یکے دیدم .... پسند آیدش -
(۳) پند دادن کسرے هرمز را - شنیدم که .... باشي بسے -
(۴) پند دادن خسرو شیرویه را - شنیدم که خسرو .... مردم درید -
(۵) حکایت - چه خوش .... بست هست -
(۶) حکایت - شنیدم که شاپور .... باره بست
(۷) گفتار - نه بر حکم .... بر نکرد -
(۸) حکایت در معني شفقت بر رعیت - شنیدم که فرماندهي .... زمین -
(۹) حکایت - شنیدم که جمشید .... در گردنت -
(۱۰) حکایت - شنیدم که داراے .... کم بود -
(۱۱) گفتار - تو کے بشنوي .... خواهي بگوے -
(۱۲) حکایت - خبر یافت .... داد خواست -
(۱۳) حکایت - از بزرگان .... بن سعد راست
(۱۴) حکایت - اتابک مرحوم تکله بن زنگي رحمه الله تعالی - در اخبار .... داشتند -
(۱۵) حکایت - شنیدم که بگریست .... تا کاشتن -
(۱۶) حکایت - خدا دوست نامي .... بند و گوش -
(۱۷) گفتار - مها زورمندي .... درگذشت -
(۱۸) حکایت در معني رحمت بر ناتوان در حال توانائي - چنان قحط سالي .... در بوستان -
(۱۹) حکایت - شبي دود .... سمن ندروي -
(۲۰) گفتار - خبرداري .... نگوید کَسَت -

(۲۱) حکایت - شنیدم که در مرزے .... ظلم جست -
(۲۲) حکایت - یکے برسر شاخ .... ز سعدي شنو -
(۲۳) صفت جمعیت اوقات درویش راضي - مگو جاهے .... شناخت -
(۲۴) حکایت - شنیدم که یکبار .... آید بگوش -
(۲۵) در معني نکوکاري و بدکاري و عاقبت آن - نکوکار مردم .... به پیش
(۲۶) حکایت - گریزي .... چشمدار -
(۲۷) حکایت - حکایت کنند از یکے .... قیامت بماند -
(۲۸) حکایت - یکے پند مي داد .... لاغران - مع گفتار - الا تا .... مرض
(۲۹) حکایت درین معني - یکے را حکایت .... برخاستست -
(۳۰) گفتار - جهان اے پسر .... گذاشتند -
(۳۱) حکایت شنیدم که در مصر .... بالین گور -
(۳۲) حکایت قزل ارسلان .... کس است -
(۳۳) حکایت - چنین گفت .... بري -
(۳۴) حکایت - چو الپ ارسلان .... ده خداست -
(۳۵) حکایت بزرگے جفاپیشه .... اشارت بس است -
Line پست ... چوبام omitted.
(۳۶) حکایت - شنیدم که از نیکمردي .... خاتمت -
(۳۷) حکایت - یکے مشت زن .... زر نداشت -
(۳۸) حکایت - حکایت کنند از جفا .... مستجاب -
(۳۹) گفتار - دمي تا بر آید .... در حلقهٔ کارزار -
(۴۰) گفتار - اندر نواخت لشکریان - دلاور .... کارزار -
(۴۱) گفتار - به پیکار .... مصافش نگشت -
(۴۲) حکایت - چه خوش گفت .... غنیمت شمار -
Line اگر چون .... مریز omitted.
(۴۳) گفتار - دو تن پرور -
Line زن .... ملمزن omitted.
(۴۴) گفتار - میان دو بد خواه .... به آرام دل -
(۴۵) گفتار - اندر ملاطفت دشمن از روے عاقبت اندیشی - چو شمشیر ....
شبیخون بري -
(۴۶) گفتار - اندر حذر کردن از دشمنی که در طاقت آید - گرت خویش....
پیش برد -

(ب) باب دوم در اِحسان

(۱) اگر هوشمندی .... در مران –

(۲) گفتار اندر نواختن یتیمان و رحمت بر حال ایشان – پدر مرده ....
سر بر فتم پدر –

(۳) حکایت در ثمر نکو کاری – کسے دید در خواب .... پیغمبران –

(۴) حکایت در اخلاق پیغمبران – شنیدم که یکهفته .... یک زمان –

Lines (1) پرست .... بگفتا نگیرم and (2)
حال .... بدانست omitted.

(۵) گفتار اندر اِحسان با مردم نیک و بد – گره بر سو .... خرد –

(۶) حکایت عابد باشیاد شوخ دیده – زبان‌دانی .... سعدی بگوش –

Line در نزد .... خود از کوه omitted.

(۷) حکایت پدر ممسک و پسر جوانمرد – یکے رفت .... حسیب –

(۸) مثل – بدختر چه خوش .... لاغر شوی –

(۹) باز آمدم بحکایت فرزند خلف .... بری –

(۱۰) حکایت اندر راحت رسانیدن همسایگان – بزارید .... علیست –

(۱۱) حکایت شنیدم که مردے .... بهر منزلے –

(۱۲) حکایت – بسرهنگ .... تمیز –

(۱۳) حکایت کریم تنگدست با سائل – یکے را کرم .... چه باک –

(۱۴) حکایت – در معني احسان – یکے در بیابان .... زبردست –

(۱۵) حکایت – بنالید درویشے .... زبر شد –

(۱۶) حکایت یکے سیرت .... کسي ست –

(۱۷) گفتار اندر جوانمردے و ثمرهٔ آن – ببخش اي پسر .... دوست –

(۱۸) حکایت در معني صید کردن دلها با احسان – بره در یکے .... دو روز –

(۱۹) حکایت درویش با روباه – یکے روبهي .... بخلق خداے –

(۲۰) حکایت عابد بخیل – شنیدم که مردیست .... سست –

(۲۱) حکایت حاتم‌طائي و صفت جوانمردي وي – شنیدم در ایام ....
ماجرائے شنو –

(۲۲) حکایت در آزمودن بادشاه یمن حاتم را – ز آزاد مردي ندانم که گفت ....
هنر هند –

(۲۳) حکایت در آزاد مردي حاتم و ذکر بادشاه اِسلام – ز بنگاه حاتم ....
ز سعدي سخن –

(۲۴) حکایت در علم بادشاهان – یکے را خرے .... من اسا –

Line زن .... یکے گفت omitted.

(۲٥) حکایت توانگر سفله و درویش صاحبدل ـ شنیدم که مغرورے .... و
زان به آز ـ
(۲٦) گفتار ـ الا گر طلبگار.... هدف ـ
(۲۷) حکایت ـ یکے را پسر .... خارها ـ
(۲۸) حکایت ـ زتاج ملکزاده .... ظریف ـ
(۲۹) حکایت اِحسان اندک و ثمرهٔ آن بے نهایت ـ جواني بدانگي ....
ندانندهم ـ
(۳۰) حکایت در معنی ثمرهٔ نیکو کاری ـ کسی دید .... سایه در ـ
(۳۱) گفتار اندر هیبت ملوک و سیاست ـ به گفتیم در باب .... و داد ـ
(۳۲) گفتار در معنيِ اِحسان با کسي که سزاوار نباشد ـ شنیدم که مردے
.... زاهراس ـ
(۳۳) گفتار ـ چه خوش گفت .... تدبیر و راے ـ

(ج) باب ششم در قناعت

خدا را ندانست .... تیرش خوري ـ

(د) باب هفتم در تربیت

(۱) سخن در ـ بندن کسی تا گفتار اندر فضیلت خاموشي .... سوختست ـ
(۲) حکایت در حفظ اسرار ـ نکش با غلامان .... دم مزن ـ
(۳) حکایت ـ سلامت جاهل در حجاب خاموشي ـ یکے خوب خلق و ....
مباش ـ
(۴) حکایت ـ یکے ناسزا .... مغزم برند ـ
(٥) حکایت ـ عضد را .... مشغول باش ـ

(ه) باب هشتم در شکر

(۱) حکایت جوان سر .... بگوش مع گفتار اندر صنع باري .... سپاس ـ
(۲) حکایت ـ نبرد آزماے .... به هیچ مع گفتار اندر نظر .... میروي ـ

(و) باب نهم در توبه

(۱) بیا اینکه عمرت .... فرصت شمار ـ
(۲) حکایت ـ شبی در جوانی .... بگور ـ
(۳) حکایت ـ کهن سالی .... روزگار ـ
(۴) گفتار ـ جوانا ره .... بخیز ـ

(ز) باب دهم در مناجات

بیا تا بر آریم .... نیندازدم

2. Ā'īna-i-Sikandari, by Khusraw خسرو

(a) Ode طرب نامهٔ زندگاني بود up to گر آسایشے خواهی از روزگار

(b) Ode که خواهد شدن منزل دیگرے up to اگر دانشے داري اے نیک راے

3. رباعیات عمر خیام beginning with the following lines :

(۱) عشاق بدرگهت اسیرند بیا
(۲) مرد آن نبود که خلق خوارند او را
(۳) خرم بتو داشتم دل پر غم را
(۴) عاقل بچه اُمید درین شوم سراے
(۵) اے خواجه یکے کام روا کن مارا
(۶) اے دل ز زمانه رسم احسان مطلب
(۷) چون کار نه بر مراد ما خواهد رفت
(۸) هر کو ورقے ز عقل در دل بنگاشت
(۹) امروز ترا دسترس فردا نیست
(۱۰) سر از همه ناکسان نهان باید داشت
(۱۱) هر دل که درو مهر و محبت بسرشت
(۱۲) هرگه که غمے ملازم دل شودت
(۱۳) درچشم محققان چه زیبا و چه زشت
(۱۴) بسیار بگشتیم بگرد در و دشت - اندر همه الخ
(۱۵) ایضا یک کار من الخ
(۱۶) هر سبزه که برکنار جوئے رستست
(۱۷) آن به که درین زمانه کم گیري دوست
(۱۸) چندین غم مال و حسرت دنیا چیست
(۱۹) چون مردن تو مردن یکبارگی است
(۲۰) هشدار که روزگار شور انگیز است
(۲۱) با دشمن و دوست فعل نیکو نیکوست
(۲۲) اے دل چو نصیب تو همه خون شدنست
(۲۳) بتخانه و کعبه خانهٔ بندگي است
(۲۴) گل گفت به از لقاے من روئے نیست

(*b*) *Grammar*—Candidates are expected to know Etymology, Syntax and the more common figures of speech. The following books are recommended :

(1) واعد فارسی عملی by Maulvi Ishaq Ali (Indian Press, Allahabad), or (2) Matriculation Persian Grammar, by Qazi Fazl Haq and Chaudhri Abdul Ghafur (Rai Sahib Gulab Singh & Sons, Lahore) or (3) دستور عجم by M. Mubin Naqwi (Jáfari Brothers, Allahabad).

Paper II—Translation, Composition and Unseen :

(*a*) Selected passages for translation into Urdu; (*b*) an easy composition exercise in Persian; and (*c*) translation of English prose into Persian.

The following books are recommended for supplementary reading and they indicate the standard of the unseen passages to be set. Any two of them should be read by each student :

(1) عیار دانش (Selections by Sami Ullah Khan, published by Ram Narain Lal, Allahabad).

(2) گلدستهٔ دانش (Anwar-i-Ahmadi Press, Allahabad).

(3) نوشتجات ایرانیان by M. Mustafa Hasan (Anwarul Matabi, Lucknow). Annas 12.

(4) ادبیات عجم حصه اول by M. Abid Hasan Faridi (Sri Ram Mehra & Co., Agra).

Students who offer Persian are required to have such a knowledge of the etymology of the Arabic language as will enable them to explain all Arabic words and phrases which may occur in the text-books and in the books recommended for rapid reading in Persian.

NOTE—Persian words must be written in Persian characters.

(*d*) Latin.

Paper I—(*a*) Prescribed Prose and Poetry.

Text-books—

1. Cæsar : De Bello Gallico, Book VI.
2. Livy : Hannibalian War, Selections from Books XXI and XXII (Macmillan).
3. Virgil : Aeneid, Book VI.

(*b*) *Grammar*—Gildersleeve's Latin Grammar or Allen's Latin Grammar is recommended.

N.B.—Questions on Grammar should be asked from the prescribed books as far as possible, and should carry about one-third of the total marks.

Paper II—Translation, Composition and Unseen :

Composition will include translation into Latin of easy English sentences and also of a simple passage of continuous English Prose.

Book prescribed :

Junior Latin Composition, by J. Mathewson Milne (Harrap & Co.),

II.—COMMERCE.

The examination will consist of two papers, each of three hours—(*a*) one paper on Business or Commercial Practice and (*b*) one paper on either (i) Typewriting or (ii) Book-keeping.

The following is the syllabus in each subject :

Business or Commercial Practice.

Office routine. Drafting simple business and official letters, telegrams and cablegrams, including a knowledge of simple codes. Docketing, filing, copying and dispatch of letters. Ordinary postal regulations. Use of postal forms such as Money Order, V.-P. P., Acknowledgment, Registration and insurance forms. Post Office Savings Bank Accounts. Telephone. Simple duplicating and other labour-saving appliances.

Meaning of ordinary commercial terms and abbreviations. Preparation of simple commercial documents such as indents, invoices, bills of exchange, promissory notes, statements of account. Nature and use of Bills of Lading and railway receipts. Simple banking transactions, involving the nature and use of cheques, deposit slips and passbooks.

Books recommended :

1. Extracts from Business Methods and Correspondence, by Arthur Fieldhouse.
2. Commercial Practice, by Roop Ram Gupta and K. L. Govil, Part I (Messrs. Gautama Bros. & Co., Cawnpore).

Typewriting.

There will be no practical examination on the typewriter, but only a theory paper of two hours' duration involving questions on—

*(*a*) the mechanical construction of the typewriter ;

(*b*) care of the machine ;

(*c*) display of matter, including headings and titles ; centering ; contractions and abbreviations ; hyphenation ; punctuation ; stencil cutting ; adaptation of one or more characters to represent characters not given on the keyboard ; corrections ; erasures.

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* Questions on the mechanism of the typewriter will be of a general nature, so that students who are acquainted with the mechanism of any of the more popular typewriting machines will be able to answer the questions (*vide* G. L. no. B-2773/V.—3, dated the 5th September, 1924, from the Secretary of the Board).

There will also be a second paper of one hour's duration, consisting of type-copying of three manuscripts.

Books recommended :

1. Pitman's or Remington's Typewriting Manual.
2. Modern Theory and Practice of Typewriting, Parts I and II, by S. R. Gupta and K. L. Agarwala (Gupta Bros. & Co., Khurja).

Book-keeping.

Elementary theory of double entry book-keeping. Preparation and keeping of the Cashbook, Bought and Sold Books, Returns Books, Bills Receivable and Bills Payable Books, Journal and Ledger ; recording therein simple transactions involving purchases and sales ; bills receivable and payable ; real, personal and nominal accounts such as rent, salaries, interest, discounts, bad debts and depreciation. Drawing up the Trial Balance. Closing the Ledger, and preparing Trading and Profit and Loss Accounts and Balance Sheet. Simple banking transactions involving the nature and use of cheques, deposit slips and passbook, and preparation of Bank Reconciliation Statements. The nature and use of Bills of Exchange and Promissory Notes. Petty Cash and Imprest Systems.

Books recommended :

1. Elementary Book-keeping, by Arthur Fieldhouse (Simpkin, Marshall & Co., Ltd., London, E.C. 4).
2. Book-keeping and Accountancy, by M. L. Agarwala (Ram Charan Lal Agrawal, Lucknow).
3. Groundwork of Book-keeping, by Y. D. Keskar (G. R. Bhargava and Sons, Chandausi).
4. High School Book-Keeping and Accountancy, by G. S. Govil (Gupta Bros. & Co., Khurja). Rs. 2-8.

III.—SCIENCE (PHYSICS AND CHEMISTRY).

The examination will consist of two papers—one in Physics and one in Chemistry, each of three hours, *and a practical examination.*

Physics.

SYLLABUS.

Definition of Physics, measurements of length, area, volume, mass and weight. The balance. Density, specific gravity. Principle of Archimedes. The three states of matter. Pressure of air, simple barometer.

Heat.—Expansion of solids, liquids and gases, temperature, thermometers, maximum and minimum thermometers, clinical thermometer, melting and boiling points, conduction, convection and radiation, thermos-flask. Unit of heat, specific heat, change of state, latent heat. Easy calculations.

Light.—Rectilineal propagation of light. Reflection, refraction, plane, concave, convex mirrors, concave and convex lenses and prisms. Position of object and image with easy calculations. The camera. Dispersion.

Magnetism.—Attraction and repulsion, magnetization, terrestrial magnetism, magnetic meridian. The compass.

Electricity.—Electrification by friction. Properties of a charged body. Conductors and insulators. The electroscope. Induction. The electrophorus. A simple cell, simple forms of primary cells, arrangement of cells in series and parallel, magnetic, heating and chemical effect of a current. The simple galvanoscope, simple explanation of the telegraph, the electric bell, electric light.

Sound.—(Treatment to be simple and non-mathematical.) Waves on water surface, wave length, frequency, amplitude, transmission of sound. Velocity of sound in air and in water. The gramophone.

Practical work.

The following list of experiments indicates the minimum amount of practical work required to be performed by students. Other experiments of equal educational value may be substituted. The experiments should be performed individually as far as can be arranged. The teaching of theory should be fully illustrated by experiments and demonstrations are to be considered an essential part of the teacher's work.

NOTE.—A chart giving a list of the experiments to be performed and the date on which each student completes each experiment should be maintained and hung in the laboratory at each school recognized in Science (*vide* G. L. no. B/3149—3300/V—36, dated the 21st December, 1925, from the Secretary of the Board).

General.—Determination of the relative density of—

(*a*) bodies which float in water ;

(*b*) bodies which sink in water ;

(*c*) liquids.

Use of the calipers.

Determination of the radius of a wire by Archimedes' principle.

Determination of the internal radius of a narrow tube.

Principle of moments.

Light.—Reflection at a plane mirror.
Focal length of a concave mirror.
Refraction through a prism.
Refractive index of glass and water.
Focal length of a convex lens.

Heat.—Cooling curve of water and wax or naphthalene.
Determination of the water equivalent of a calorimeter.
Determination of Specific Heat.
Determination of the Latent Heat of Ice.
Determination of the Latent Heat of Steam.

Magnetism.—Mapping out lines of force by a small compass needle.
Determination of the direction of the Magnetic meridian.

Electricity.—Charging an electroscope by Conduction and Induction.
The magnetic effect of a current on a magnetic needle.
The electromagnet.

Books recommended :

1. Experimental Science for Indian Schools, by Gregory and Hodges (Macmillan). Rs.3.
2. An Oxford High School Physics, by A. D. Joshi (Oxford University Press). Rs.3.

The following books on Physics are recommended for teachers' reference library :

1. Every-day Physics, by H. E. Hadley (Macmillan & Co.). Rs.4, or

   An Introduction to Physical Science, by Ivor B. Hart (Oxford University Press). Rs.2.

2. A Class Book of Physics, by R. A. Gregory and H. E. Hadley (Macmillan & Co.) Rs.3-12.
3. A Course of Physics, by Charles H Draper (Blackie & Sons). Rs.3-12.
4. An Elementary Physics, by K. C Bhattacharya (Indian Press, Allahabad). Rs.2.
5. Matriculation Physics, Heat, Light and Sound (University Tutorial Press).

Chemistry.

Definition of Chemistry.

Common properties of matter : hardness, porosity, brittleness, solid, liquid and gaseous states. Change of state. Melting and boiling points.

Crystalline shape, effect of heat on common things.

Solution in water. The above to be studied with NaCl, KNO_3, $CaCO_3$, Na_2CO_3, $CuSO_45H_2O$, $FeSO_47H_2O$, $ZnSO_47H_2O$, Fe, Zn, Sn, Mg, Pb, Hg, P, S, Shellac and linseed oil.

Solution, melting, evaporation, distillation, filtration, solution in water and alcohol. Water of crystallization. Slow and rapid evaporation, saturated solutions. Crystallization studied from solutions in water and of melted sulphur. Distillation of water, mixtures, immiscible liquids. Elementary and compound substances. Non-metals and metals. Chemical symbols. Chemical action, the law of definite proportion, atoms, molecules, atomic and molecular weights, valency, relation between equivalent and atomic weights. Simple formulæ and equations.

Study of air—Rusting of metals, oxidation, active and inactive gases in air. Burning of phosphorus. Meaning of combustion, slow and rapid combustion studied with iron, magnesium, and phosphorus.

Oxygen gas ; prepared from oxide of mercury and potassium chlorate. Important properties of oxygen gas.

Acidic and basic oxides, acids, bases and salts.

Preparation and properties of the following :

Hydrogen, Nitrogen, Ammonia, Chlorine, Hydrochloric acid, Nitric acid, Carbon dioxide.

Carbon—Properties and varieties.

Action of carbon dioxide on animal and plant life.

Sulphur—Properties and varieties.

Preparation and properties of sulphur dioxide and sulphuric acid, their preparation treated in a very elementary manner—sulphur dioxide by burning sulphur in air and by the action of hydrochloric acid on calcium sulphite, and sulphuric acid by the action of nitric acid on sulphur dioxide and water.

Study of Water—Action of steam on red-hot iron filings.

Action of Sodium on water. Action of magnesium on steam. Electrolysis of water.

NOTES 1.—The detailed course given below indicates the minimum amount of practical work required to be performed by students and suggests a method of treatment of the syllabus for the guidance of teachers. They may substitute other experiments of equal educational value. Practical work should be co-ordinated with the theoretical work and follow it consecutively, as far as possible. Practical experiments should be performed by students individually as far as can be arranged.

2. A chart giving a list of experiments to be performed and the date on which each student completes each experiment should be maintained and hung in the laboratory of each school recognized in Science (*vide* G. L. no. B/3149—3300/V—36, dated the 21st December, 1925, from the Secretary of the Board).

The use of stencils in answering papers in Science is not allowed.

(*Classes IX and X.*)

Classes IX and X will have 6 periods of Science per week—for at least 27 working weeks; this gives a total of 162 periods in class IX :

Detailed syllabus	Minimum list of experiments which should be done by the pupils individually
Effect of dissolved substances on boiling point.	To find B. P. of solutions of calcium chloride Solution of different strengths.
Distillation. Purification of water ..	To bend tubes, bore corks, set up apparatus for distillation and find B. P. before and after distillation.
Elements and compounds	To examine the elements—sulphur, copper, lead, mercury, zinc. To examine the compounds, ferrous sulphate, copper sulphate, lead oxide, mercury oxide and regain the elements, where possible.
Metals and non-metals, properties :	
The atmosphere. Combustion, active and inactive air.	Burning a candle in a bell jar. Repeat with sulphur, phosphorus. To measure the proportion of air used up when a substance burns in air.
Rusting .. — —	To show iron will not rust in dry air. To measure the air used up when iron rusts in air.

Detailed syllabus	Minimum list of experiments which should be done by the pupils individually
Increase in mass in rusting and burning Explanation of above.	To show increase in mass when magnesium and iron burn in air and when iron rusts in air—when a candle burns in air.
Oxygen	Preparation from mercuric oxide and potassium chlorate in small quantities and in large quantities from manganese dioxide and potassium chlorate, its properties. To show loss in mass when potassium chlorate is heated.
Metals, non-metals, and their Oxides ..	Their basic and acidic properties.
Nitrogen. Its use in the atmosphere ..	*Properties, to find percentage of nitrogen in air by pyrogallic acid.
Water not an element	Action of sodium on water. Action of magnesium on boiling water. Action of steam on iron (lecture room). Examination of oxide of iron formed. Increase in mass. Comparison with iron rust.
Preparation of hydrogen ; its properties	From zinc and sulphuric acid. What happens to the zinc. What happens when hydrogen burns in air. Explosion of hydrogen with air. *Electrolysis of water and its composition by volume. Action of hydrogen on the oxides of copper and iron when heated.
Carbon	Properties and varieties. *Formation when carbon or carbonaceous matter burns in air.
Carbonic acid gas. Chalk	Effects of acids on chalk. Examination of the gas, properties of gas obtained by the effect of strongly heating chalk. Examination of lime, difference between properties of chalk and lime, loss in mass on heating chalk.
Animal and plant life	*Formation of oxygen by plants.
Chlorine gas	Preparation from manganese dioxide and hydrochloric acid. Its properties.
Hydrochloric acid gas	Preparation from sodium chloride and sulphuric acid. Its properties.
Ammonia gas	Preparation from ammonium chloride and quicklime. Its properties.
Sulphur	Effect of heat.

* Experiments marked with an asterisk should be shown by the teacher in the class room.

The books *recommended* for use in Chemistry are—

1. Gregory and Hodges : Experimental Science for Indian Schools (Macmillan).
2. Wilson and Hedley : A School Chemistry for India (Oxford University Press). Re.1-4.
3. J. W. Mellor : Elementary Inorganic Chemistry (Longmans, Green & Co.), 1930.
4. An Elementary Chemistry for Indian Schools, Parts I and II, by K. C. Bhattacharya (Indian Press, Allahabad), 1929.
5. A First Course in Inorganic Chemistry, by Bailey (University Tutorial Press, London).
6. High School Chemistry, by Bhargava and Bhargava (Nand Kishore & Bros., Benares).
7. Chemistry for IX and X classes (revised), by Kumar and Bhargava (G. R. Bhargava & Sons, Chandausi).

IV.—AGRICULTURE.

The examination will consist of two papers of three hours each.

The first paper will be on the subject-matter in the syllabus up to and including sub-section (5)—Tillage ; and the second paper on the remaining portion.

SYLLABUS.

(1) *Climatology.*—Weather and seasons in the country and in the provinces.

(2) *Soils.*—Soil-forming processes.

Classification of soils on the basis of size of soil particles :

Gravel (kankar).
Sand (bhur).
Sandy loam (retili domat).
Loam (domat).
Clay loam (matyar domat).
Clay (matyar).

Texture of soils.—Arrangement and size of particles of soil ; specific gravity ; pore space ; surfaces exposed ; friability.

Organic matter in the soils.—Its sources, distribution and maintenance. Its effect on soil.

Soil water.—Its forms, its movements.

Control of soil moisture.—Run-off losses ; percolation ; evaporation. Methods of checking the same.

Soil heat.—Relation of heat to germination and growth. Sources of soil heat. Factors affecting soil temperature. Effect of colour on radiation.

(3) *Irrigation and Drainage*—

Water requirements of plants.—Factors affecting transpiration. Wilting point. Conserving of moisture. Effect of excessive moisture.

Sources of water for irrigation.—Rain, its annual and seasonal variations ; wells, rivers, canals, tanks and bandhis.

Types of simple water-lifts.—Persian wheel, chain pump, charsa, baldeo balti, dhekli.

Distribution of water.—Flow system ; pucca and kachcha channels ; planning and laying out of irrigation channels.

Drainage.—Earth bunds. Conditions making drainage necessary. Possible relation between irrigation and drainage.

(4) *Manures and manuring.*—Farm-yard manure ; composting ; manure pit ; green manuring ; poudrette ; preservation ; application ; oil-cakes ; chemical fertilizers.

(5) *Tillage.*—Objects of tillage and description of principal implements of tillage :

(*a*) Ploughs.
(*b*) Cultivators including harrows.
(*c*) Patela.
(*d*) Hand tools.

(6) *The Plant.*—General description of a plant and its parts and the functions of each. Plant growth, substances necessary for plant growth, sources of those substances, storage and movements of food materials. Necessary conditions for the normal growth of a plant—air, heat, light and moisture.

(7) *Farm Crops.*—Preliminary cultivation, sowing, weeding, irrigation, manurial requirements, harvesting, storage, and marketing of the following crops :

Wheat, gram, rice, maize, jawar, arhar, cotton, mustard, sanai, potatoes, sugarcane, and vegetables.

(8) *Farm Animals.*—Buffaloes, cows and oxen, goats; their care and maintenance.

(9) *Patwari Papers.*—Limited to village maps, khasra, khatauni and khewat.

Candidates are required to maintain notebooks of all work done, both theoretical and practical. These notebooks should be inspected periodically and initialled by the teachers. They may be called for at the time of the examination.

Candidates will undergo the following course of practical work in connexion with the above syllabus :

1. Each student is required to keep records of the following facts noted in the school observatory :

   (*a*) Rainfall.

   (*b*) Maximum and minimum temperature of air in shade; readings to be taken at least once a week.

   (*c*) Wind directions

   (*d*) The nature of frost, fog, hail and dust-storm and the time of their occurrence.

   (*e*) Afternoon temperature of black soil, light coloured soil, rolled soil, and mulched soil.

2. Separation of stones, gravel, and fine soil by sieve. Weight of different soils in unit volume. Organic matter in soil and sub-soil, its power of absorbing moisture. Amount of percolation of water in a unit of time through sand, clay and loam. Classification of soils as clay, loam, sandy by sight and touch.

3. Rough estimates of amount of water discharged in one hour by the different water-lifts in use.

4. Results of applications of green manuring, farmyard manure, oil-cakes, ground bones, nitrate, applied to school garden plots.

5. Use of farm implements.

6. Drawings of the following plants

   Juar, cotton, wheat, gram, potato and okra (bhindi).

7. Records of notes of cultivation of at least one *kharif* crop, one *rabi* crop, sugarcane, one garden crop, from the time of preparation of seed-bed to marketing, actually observed by the candidate.

8. Description of local breeds of farm animals. Recognition of different feeding stuffs.

General lay-out of farm buildings.

Books recommended :

1. Meston Readers, Parts 1 to 3, by K. S. M. A. Qayam.
2. Krishi Shastra or Ilm Zarayat, by Tej Shanker Kochak.
3. Tisdale's Books on Dairying.
4. Monthly Journals, Leaflets, and Bulletins issued by the United Provinces Agricultural Department.
5. Lessons in Indian Agriculture, by D. Clouston (Macmillan & Co., Ltd.)
6. Rahbar Zarait, by T. S. Kochak, published by the author. Rs. 2-8.
7. Krishi Vigyan, Part I, by Sita Prasad Tiwari.
8. Studies in Agricultural Improvement, English, Hindi and Urdu editions, by C. Maya Dās (Government Central Press, U. P., Allahabad). Price, English edition, Re. 1-4.

V.—DRAWING.

The examination will consist of two papers of three hours each. The first paper will be in two parts (*a*) on Free Arm Drawing from a group of objects retained before the class and (*b*) from a choice of three familar objects to be drawn entirely from memory, in outline only, and either in pencil or pastel. The number of marks for (*a*) should be 35 and for (*b*) 15. The second paper will be on Geometrical Drawing.

SYLLABUS.

Free Arm.—This should be in Pastel, and should comprise common objects from nature.

The Round.—Such as Orange, Mango, Apple, Tomato, Lichi, Melon, Peach ; Hockey and other Balls, Nutmeg, Walnut, etc.

The Cylindrical.—Such as Flower-pot, Household Utensils, Degchies, Cups, Saucers, Surahi, Bowls, Tumblers, Lotas, Bottles of kinds, Inkpots, Gloy Bottle, Paper-weight, Candle-stick, etc.

The Rectilinear.—Open Book, Cigar and Cigarette Boxes, Match Box, Attaché Case, Cash Box, Flags, etc.

Miscellaneous.—Hockey Sticks, Cricket Bat, Tennis Racket, Mallet, Hammer, Screw Driver, Chisels, Padlock, Key, Scissors, Knives, Hatchet, etc.

Nature Study.—Simple flowers and leaves of all sorts. Butterflies, Beetles, etc.

The above outline which is but suggestive should be in Pastel on Tinted Paper and will involve instruction in the art of Blending Colours, Colour Harmonies, Colour Schemes and Shadows.

Memory Drawing.—The drawing of some simple and familiar objects entirely from memory.

Books recommended :

Pastel work for the standards, 3 volumes, by A. G. Tomkins (Messrs. Isaac Pitman & Sons, London, Bath and New York). Rs. 3 each volume.

Materials.—Pastels, Paper, etc. (Reeves), obtainable from Messrs. J. N. Navalakhi & Co., Kalbadevi Road, Bombay.

Pastels, Agra Pencil Factory, Tajganj, Agra.

Pastels, De Comerades, Delhi.

Geometrical Drawing.—(1) The theory and use of instruments, especially of the protractor and Marquoise scale.

(2) Plain block-letter writing.

(3) The whole of practical plane geometry.

(4) Drawing of scales, viz. scale of chords ; diagonal scale ; plane scale ; comparative scales (to be done in ink).

Books recommended :

1. Geometry, Plane and Solid (Morris), (Longmans, Green & Co., Bombay and London).

2. Practical Plane and Solid Geometry, by T. W. Wood (George Gill & Co., Minerva House, Warwick Lane, E. C., London). Re. 1-1.

3. Modern Art Geometry, by R. C. Singhal (Gupta Bros., Khurja). Rs.1-8.

4. Geometrical Drawing (Plane), by M. K. Varma (Lakshmi Narain Agarwal, Agra). Rs. 1-8.

Materials.—School Geometry set (Reeves).

Recommended for reference by teachers :

Roorkee Treatise on Drawing, Part I (Roorkee Thomason College Book Depot, Roorkee).

The Teacher's Manual of Drawing, by Weston, published by Thomas Nelson & Sons and sold by Wheeler, Bombay and Indian School Supply Book Depot, Calcutta (price Rs. 4-6).

VI.—MANUAL TRAINING.

The examination will consist of one paper of three hours in Drawing and a practical examination of four hours in Woodwork.

SYLLABUS

(1) *Woodwork*—

(*a*) A series of models graduated in respect of the tool manipulations involved, to be made in wood, from working drawings (drawn in plan and elevations, conventional isometric projection) or from a given pattern in wood; the construction of the models to involve the use of one or more of the following tools: Jack Plane, Try Square, Marking Gauge, Marking Knife, Smoothing Plane, Tenon Saw, Bevel, Screw Driver, Firmer Chisel, Hammer, Mallet, Bradawl, Nail Punch, Compass, Firmer Gouge, Gimlet, Frame Saw, Spoke Shave, Brace and Bit, File.

The following joints at least should be included amongst the models:

Half-lap, Housing, Mortise and Tenon, Half-lap Dovetail, Box Dovetail, Edge-dovetail, Bridle.

(*b*) The care and maintenance in good working condition of the above-mentioned tools, excluding saw setting and sharpening.

(2) *Drawing*—

Drawing in plan and elevations of all models in the course and in conventional isometric projection of those of a rectangular shape.

NOTES 1.—A scheme drawn up on the above lines is given below. Teachers need not keep strictly to the particular model mentioned in this scheme, but if any changes in the models are made these should not involve changes in the new tool manipulations employed. The course should, if possible, be commenced in class VII.

2. Attention is invited to the suggestions for the teaching of Manual Training contained in Director of Public Instruction's circular no. 2 of 1917-18.

*Books recommended for the *use of teachers*:

1. The Teacher's handbook of Sloyd, by O. Salloman. (George Phillip & Sons.) 6*s*.

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* In connexion with the books recommended for the use of teachers in this Prospectus it should be noted that there is in addition a number of books approved for the use of teachers generally (*vide* list of books approved for the use of teachers of Anglo-Vernacular and Vernacular Schools, dated the 31st July, 1916, and its supplements issued annually).

2. Manual Instruction; Woodwork, by J. C. Pearson. (George Phillip & Sons.) 6*s*.

3. McDougall's Light Woodwork, by David Thomas. (McDougall's Educational Co., London.) 1*s*.

4. The Scholar's Woodwork Class-book, by T. W. Berry. (Cassell & Co., London.) 1*s*.

5. Practical Drawing, by T. S. Usherwood. (Macmillan & Co.) 2*s*.

6. Educational Handwork—Junior Course, by J. L. Martin and C. V. Manley. (Blackie & Sons.) 1*s*. 6*d*.

7. Educational Handwork—Intermediate Course, by J. L. Martin and C. V. Manley. (Blackie & Sons.) 1*s*. 6*d*.

8. Educational Handwork or Manual Training, by A. H. Jenkins (University Tutorial Press, Burlington House, Cambridge).

9. The "Self-help" Course of Woodwork Exercise, by E. J. Andrews. (Charles and Dible, 10 Paternoster Square, London.) 2*s*. net.

10. Handicraft in Wood and Metal, Shirley and Hooper (Batsford). Rs. 9.

Table showing the tool manipulations involved in making the models of the course

(* Indicates a new tool manipulation. + Indicates revision of a tool manipulation previously learnt)

Serial number of tool manipulation ↓	Serial number of exercise→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	Number of times each tool manipulation occurs in the course ↓
	Name of exercise→ Name of tool manipulation ↓	Preliminary (planing)	Preliminary (gauging)	Rectangular prism	Square prism	Prism with longitudinal cuts	Prism with oblique cuts	Wooden pattern (*a*)	Wooden pattern (*b*)	Wooden pattern (*c*)	Rhombus with chamfered edge	Prism with inlaid pieces	Match-box holder	Name board	Stool	Round ruler	Inkstand	Lapped halving joint	Simple bracket	Housing joint	Letter rack	Newspaper rack	Mortising	Book-stand	Haunched tenoning	Book rest	Key-rack	Half-lap dovetailing	Towel rail	Edge-dovetailing	Hat-rack	Box-dovetailing	Box	Paper-file	Paper-knife	Bridle jointing	Boot-rack	Mortise mitring	Picture frame	Butt jointing	Set squares 45 and 60	
1	Face planing	*	..	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	39
2	Edge	*	..	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	39
3	Gauging	..	*	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	39
4	Marking with knife	..	..	*	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	38
5	Sawing with tenon saw at right-angles to the grain	..	..	*	+	+	+	+	+	+	..	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	37
6	End planing	..	..	*	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	38
7	Sawing with tenon saw with the grain	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	+	+	+	..	+	+	..	+	..	..	..	..	..	+	..	..	..	..	9
8	Use of bevel	..	..	..	..	..	*	..	+	+	+	+	..	+	+	..	..	+	+	..	..	+	..	+	..	..	+	..	..	..	+	..	..	+	..	+	..	+	+	+	+	19
9	Use of screw-driver	..	..	..	..	..	*	..	+	+	+	+	..	+	+	..	..	+	+	..	..	+	..	+	..	+	+	..	..	..	+	..	..	+	..	+	..	+	+	+	+	20
10	Sawing through a face obliquely to the grain	..	..	..	..	..	*	..	+	..	+	+	..	+	..	..	..	..	+	..	..	+	..	+	..	+	+	+	+	..	+	..	..	+	+	+	+	+	+	+	+	21
11	Horizontal chiselling across the grain	..	..	..	..	..	..	*	..	+	..	+	..	..	..	..	..	+	+	+	+	+	..	..	..	..	..	+	+	..	..	..	..	..	..	..	..	..	..	..	..	10
12	,, ,, obliquely to the grain	..	..	..	..	..	..	..	*	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	+	+	+	..	..	..	..	..	..	..	..	..	..	..	6
13	Sawing through an edge obliquely to the grain	..	..	..	..	..	..	..	..	*	..	..	..	..	+	..	..	+	..	..	..	+	..	..	..	..	..	+	+	+	+	+	+	..	..	+	+	+	+	..	..	14
14	Vertical chiselling parallel to the grain	..	..	..	..	..	..	..	..	*	..	..	+	+	..	..	+	..	..	..	..	..	+	+	+	+	..	..	+	..	..	..	..	..	..	..	+	..	..	..	..	10
15	Chamfering with plane with the grain	..	..	..	..	..	..	..	..	..	*	..	+	..	..	..	+	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	+	..	..	..	+	..	..	6
16	,, chisel across the grain	..	..	..	..	..	..	..	..	..	*	..	+	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
17	Vertical chiselling obliquely to the grain	..	..	..	..	..	..	..	..	..	..	*	..	+	..	..	..	..	..	..	+	+	..	..	..	..	+	+	..	..	+	..	..	..	..	..	..	+	+	..	..	9
18	Inlaying	..	..	..	..	..	..	..	..	..	..	*	..	+	..	..	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
19	Vertical chiselling at right angles to the grain	..	..	..	..	..	..	..	..	..	..	..	*	+	+	..	+	+	+	+	+	+	+	+	+	+	+	+	+	+	..	+	..	..	..	+	+	+	+	..	..	22
20	Horizontal chiselling with the grain	..	..	..	..	..	..	..	..	..	..	..	*	+	+	..	+	..	..	..	..	..	+	+	+	+	+	..	+	..	..	+	..	..	..	+	+	..	..	..	..	13
21	Boring with bradawl	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	+	..	+	+	..	..	..	+	..	..	..	..	+	..	+	+	+	..	..	..	..	..	..	9
22	Nailing	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	+	+	..	..	..	..	..	..	..	4
23	Use of compass	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	+	..	..	..	..	+	..	..	..	+	+	..	+	..	..	..	..	..	+	..	+	..	..	..	..	9
24	Modelling with jack plane	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	2
25	Filing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	+	..	..	..	+	+	..	+	..	..	..	..	..	..	..	..	..	..	..	..	5
26	Gouging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
27	Stop chamfering	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
28	Halving	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	2
29	Screwing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	4
30	Boring with gimlet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	+	+	..	..	+	+	+	..	+	..	+	..	..	..	..	..	+	..	..	..	..	9
31	Housing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	+	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	..	..	3
32	Frame sawing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
33	Spoke shaving	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	+	+	+	2
34	Mortising	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
35	Use of brace and bit	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
36	Haunched tenoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
37	Fixing hinges	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	*	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	1
38	Glueing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..	..	5
39	Half-lap dovetailing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	+	..	..	..	..	..	..	..	..	..	..	2
40	Edge-dovetailing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	+	..	..	..	..	..	..	..	..	2
41	Box-dovetailing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	+	..	..	..	..	2
42	Vertical gouging across the grain	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	..	2
43	Concave and convex chiselling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	1
44	Bridle jointing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	2
45	Mortise mitring	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	2
46	Rebating with chisel	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	1
47	Butt jointing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	2
	Number of tool manipulation in each exercise→	2	1	6	6	7	9	7	10	11	10	13	11	14	13	9	14	12	14	9	13	21	11	15	11	19	20	14	19	10	17	10	12	12	11	13	16	13	16	11	11	

VII.—A MODERN EUROPEAN LANGUAGE.

French.

There will be two papers of three hours each. The first paper will consist of passages for translation from the Prescribed Text-books, questions on the Prescribed Text-books, and questions on Grammar. The second paper will consist of Unseen passages and idiomatic phrases for translation from French into English and *vice versa.*

Text-books prescribed :

1. *Ed. About* :—Le Nez d'un Notaire. Macmillan's Edition (Siepmann's Series).
2. *Du Camp* :—La Dette de Jeu (Cambridge University Press).
3. *Daudet* :—Quatre Contes Hutton (Oxford University Press).
4. *La Fontaine* :—Selected Fables. Hugon (Oxford University Press).

Grammar recommended :

French Grammar (Sonnenschein's Parallel Grammar Series) *or* Heath's Modern French Grammar (Harrap).

NOTE.—The *viva voce* examination has been dropped for the present.

VIII.—DOMESTIC SCIENCE.

The examination will consist of two papers of three hours each The first paper will contain questions on Physiology, Hygiene, Household Management, and Home-nursing. The second paper will consist of the practical examination in Sewing to be held at the same time as the examination in written work. There will also be an oral test in First Aid and Home-nursing, and a practical test in Cooking.

	Marks.
First paper	50
Sewing	20
First Aid and practical work in Home-nursing and Cooking	30

Candidates should be required to gain pass marks separately in—

(*a*) First paper (Physiology, Hygiene, Household Management and Home-nursing).

(*b*) Sewing ; First Aid with practical work in Home-nursing and Cooking.

SYLLABUS.

As a basis for the teaching of Hygiene and Home-nursing there should be a preliminary simple treatment of the following topics in Elementary Physiology :

The human skeleton, the organs of digestion, the circulation of the blood, the nervous system, respiration.

I.—Hygiene.

NOTE.—Great importance should be attached to practical work wherever the subject admits of this.

Air.—Composition of air, importance of pure air, impurities of air, diseases caused by impure air, ventilation.

Water.—Composition of water ; quantity of water required ; source of water-supply, springs, deep wells, surface wells, rivers, tanks ; how water is polluted ; how to prevent pollution of water ; how to purify water ; boiling and filtering.

Food.—Composition of food ; composition of good diet and its importance ; preservation of food ; cooking of food ; drinks and condiments.

Personal Hygiene.—Cleanliness of body (hair, nails, teeth, etc.) ; clothing ; exercise ; importance of temperance ; the use of *pan*, opium and other drugs ; spitting.

Precautions against diseases.—Infectious diseases (small-pox, measles and diphtheria, etc.) ; colds and influenza ; tuberculosis ; enteric fever ; dysentery and diarrhoea ; cholera ; plague ; malaria ; itch ; leprosy ; ophthalmia (sore-eyes).

II.—First Aid.

Roller bandage, figure of eight as applied to knee, elbow, finger, ear ; bandage for eye, nose, chin. Bleeding of different kinds ; how to stop bleeding ; drowning ; burns ; scalds ; bruises ; sprains ; broken bones ; dislocation ; carrying injured people ; fainting ; sunstroke ; hysteria ; epilepsy ; suffocation ; foreign bodies in eye, ear, nose, and throat ; bites of mad dogs ; signs of madness in dogs ; snake-bite ; stings.

III.—Home-nursing.

NOTE.—None of the work is to be purely theoretical. Practice must be given in every point which allows of practical work.

1. *Room.*—Bed ; bedding ; furniture ; light ; warmth ; ventilation.
2. *Nurse.*—Health ; dress ; qualifications of a nurse.
3. *Duties of Nurse.*—Administration of medicine ; pulse and temperature charts ; bathing ; changing of garments and bedding.
4. *External Remedies.*—Poultices ; plasters ; fomentations ; ice sponging ; baths ; temperature of baths.
5. *Food.*—Kind of food and preparation ; way of giving.
6. *Infectious Illness.*—Precautions during illness ; disinfection of room, clothing, and bedding after illness ; use of disinfectants.
7. *Convalescence*—Occupations ; visitors ; rest, sleep and food.

IV.—Care and training of children.

Food, sleep, exercise, play, clothing, cleanliness, surroundings.

V.—Household Management.

A.—Choice of House. Furniture and Decoration. Distribution of rooms. Cleansing and care of house and furniture. Disposal of refuse and sewage. Precautions against flies and mosquitoes.

B.—Care of the kitchen.

Preparation of simple food.

Two of the following groups to be selected of which group (*i*) is compulsory :

(*i*) Preparation of *roti*, rice, *dal*, and *tarkari*.

(*ii*) Preparation and care of milk ; and making of sweets.

(*iii*) Preparation and care of meat. (One dish only required.)

(*iv*) Preparation of preserves (*murabba*) and pickles (*achars*).

C.—Duties of the mistress of household.

Proper distribution of daily activities. Accounts and budgeting of expenditure.

VI.—*Clothing.*

(*i*) Choice and care of clothing.

(*ii*) Methods of washing and ironing cotton, woollen, and silk materials.

NOTE.—Practical work should be done.

(*iii*) Sewing and cutting out.

A good standard of skill will be required in the various stitches that are necessary in making up garments and in mending worn articles of clothing.

Each candidate should select three of the following groups of which two should be from (*a*), (*b*) and (*c*) :

(*a*) To draft, cut out to measurement and make up the following garments for a man :

A coat or shirt and a *pyjama* (two garments required).

(*b*) To draft, cut out to measurement and make up the following garments for a woman :

A *kurti* or blouse or night dress and a skirt or petticoat or *pyjamas* or knickers (two garments required).

(*c*) To draft, cut out to measurement and make up the following garments for a child :

A frock or petticoat and *pyjamas* or knickers (two garments required).

(*d*) Drawn thread or crewel work or English embroidery or *chikan* work or *sulme sitare.*

*(*e*) Spinning.

*(*f*) Weaving

Notes should be kept. Work in drafting that is done throughout the course should be kept for inspection.

NOTE.—As an indication of the scope and standard of instruction in hygiene and home-nursing teachers are referred to sections II, III and IV of Personal and Domestic Hygiene for the School and Home, by Mrs. Harold Hendley (Rai Sahib M. Gulab Singh & Sons, Lahore), also to Indian Manual of First Aid and Indian Home-nursing published by the Indian Council of the St. John Ambulance Association (Thacker, Spink & Co., Calcutta).

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* The following general rules should apply to the practical test in spinning and weaving in all years :—

(1) Candidates should be required to state the number of yards of thread spun and the number of counts of the thread.

(2) Marks should be allotted for the quantity of thread spun and the fineness and evenness of the thread.

(3) In the weaving test the candidate's speed and evenness of work should be taken into account in awarding marks.

Books for teachers' reference :

1. Physiology, by T. Huxley.
2. Tropical Hygiene, Lukis and Blackham (Thacker, Spink & Co.).
3. Outline of Domestic Science (for Indian Readers), by Lilian Sawtell (Longmans, Green & Co.).
4. Manual of Mother-Craft, by Dr. Balfour (St. John Ambulance Association, New Delhi). Annas 10.
5. Child-welfare, by Dr. S. K. Mukerji (Indian Press, Allahabad).
6. Domestic Science for High Schools in India, by Needham (Oxford University Press).
7. Good House-keeping (magazine).
8. Home-nursing (for Indian Women living in Indian Style), compiled by Lady Petrie and Dr. Ruth Young (St. John Ambulance Association, New Delhi). (Recommended for the use of students also.)
9. Needle work for Junior Schools and Needle work for Senior Schools, by Gertrude Fearnside (Evans Bros., Montague House, Russell Square, London, W. C. I.).

IX.—METAL WORK.

The examination will consist of one paper of three hours in Drawing and Theory, and a practical test for four hours in Forging and Fitting Work.

SYLLABUS.

(a) *Practical work*—A series of models graded in respect of tool manipulation to be made in metal from Working Drawings or from Patterns, and involving the use of Forge, Anvil, Vice, Tongs, Top and Bottom Tools, Drills, Hammers, Files, Stocks and Dies, etc. Exercises should include Drawing Down, Upsetting, Welding, Annealing, Hardening and Tempering, Rivetting, etc., and such objects as Punches (nail and centre), Scribing Knife, Nuts and Bolts, Rings, Chain Links, Hasp and Staple, Keys (for shafting), Coat Hook, Wall Bracket, Letter Weight, Calipers, Wall-Holdfast, Cold Chisels, Drills, etc.

(*b*) *Theoretical work.*—Properties and uses of different metals, Iron (malleable and cast), Steel, Brass, etc. Sections and weights of above Length calculations, Working heats, Care and maintenance of tools, forge, etc.

(*c*) *Drawing*—In orthographic projection of all models made during the course.

Books recommended :

1. Smithy and Forge, Crane, approximate price Rs.2. (Publishers, Crosby Lockwood.)
2. Smith's Work, Hasluck, Rs.2. (Cassels.)
3. Educational Handwork, Jenkins, Rs.3. (University Tutorial Press.)
4. Handicraft in Wood and Metal, Shirley and Hooper, Rs.9 (Batsford).
5. Plain and Ornamental Forging, Schwarzkopf (Wiley & Sons), Rs.6-8.

X.—HISTORY *or* GEOGRAPHY.

(The same course as in the compulsory subject.)

XI.—BOOK-BINDING.

The examination will consist of one paper of three hours and a practical examination (including oral test) not exceeding four hours.

SYLLABUS.

Theory.—(*a*) Paper, its history and manufacture, varieties, sizes, weight, colour, surface, etc.

General book-binding materials, threads, tapes, covers, edges, tops, backings in various materials, cloth, leather, vellum. Adhesives, manufacture and use. Forms of binding, cloth, paper, quarter and half leather.

Decorative materials, gold-leaf, silver-leaf, inks, colours, and varnishes.

Tools and appliances (*b*)—Guillotine, Stitching Frame, Punching Frame, Backing Press, Standing Press, hand working tools, hammers, punches, scissors, needles, knives, embossing tools, etc.

Practical.—(*c*) Folding and cutting papers to various sizes. Sewing by various methods including section, and Tanni Silai. Rounding and backing, covers and corners in cloth, leather, etc. Simple decoration of book covers by tooling, embossing and colouring on various materials, lettering and gilding. The repair and re-backing of old books, care of books, preservation and repair.

Books suggested.—(*a*) for teachers—Book-binding and the Care of Books, by John Hogg.
(*b*) for students—Book-binding, by Cassels.

XII.—SPINNING AND WEAVING.

The examination will consist of one paper of three hours and a practical examination (including oral test) not exceeding four hours.

SYLLABUS.

Spinning.—(*a*) *Theory.*

1. A brief survey of the principles of seed selection, land preparation, cultivation, growth, distribution, ginning and marketing of cotton.

2. Types and classes of the different cottons grown in the various parts of the world with particular reference to Indian-grown cottons. The utilization of all classes of cotton for the various kinds of cloth.

3. The physical properties of cotton, structure, length, diameter, and colour of the different varieties.

4. The preparation of the cotton fibre for hand spinning, hand ginning and cleaning.

5. Spinning by the spinning wheel. The principles of hand drawing, twisting, and winding, in comparison with various types of spinning wheel.

6. The qualities and usefulness of well-spun yarn. The effect of spinning on the preparatory and weaving processes.

7. Methods of disposal of yarn.

8. A brief survey of other raw materials used in spinning such as wool, silk, waste silk.

Spinning.—(b) Practical.

The spinning wheel and its manipulation, three principles in operation, viz. drawing, twisting, and winding.

Weaving.—(a) Theory.

1. Its numeration and explanation of the different forms in which yarn is supplied to the weaving section for making into cloth, e.g. cops, hanks, cones, cheeses, etc.

2. Winding on the "Charkha" and methods adopted when winding from the forms mentioned above. The necessity of good winding and also of the traverse showing how badly-made bobbins affect the subsequent processes.

3. Warping and its object. The methods used, such as single-end multiple and Ball-warping machine in the making of warps for the loom.

4. Sizing and its necessity. The common ingredients used and the methods of application to the yarn. The effect of faulty sizing and application in the after processes.

5. Methods used in the running-off of warps on the weaver's beam.

6. Drawing in, its necessity, object and manipulation, Healds and Reeds, Drawing-in-implements.

Weaving.—"Gaiting" the warp in the loom. Explanation of the three main motions, viz. shedding, picking, beating-up. Shedding as done by pedals and applied to the various types of cloth. The manipulation of the pedals, picking and how it is done. Beating-up to produce different thickness or fineness of cloth. Description of the parts in a sley ; shuttle, pickers, shuttle boxes and all sundry parts.

Calculations.—The system of counting yarns—cotton, wool, silk, etc.

The testing of counts, folding of yarns, quantity of warp and weft in a piece of cloth. Head knitting, reeds and warping.

Designing.—The standard weaves such as plain, twill, satins, combination and re-arrangement of these weaves, stripes, mock-lenos and similar cloths. Analysis of these cloths with drafting and lifting plans.

The make up and marketing of the above.

Finishing of cloths.

Weaving.—(b) Practical—

The making of warps by the "single," "multiple" and "Ball warp" methods—Winding on to warp bobbins and also weft-pirns. Sizing of yarn by hank and in ball warp. "Running-off" of warps on to plains, drills, twills, and simple tie-up designs.

Books suggested for teachers' use and students' reference :

1. Cotton Spinning, Vol. I, by W. S. Taggart. (Macmillan.)
2. Cotton Weaving and Designing, by J. T. Tayler. (Longmans).
3. Hand-loom Weaving, by L. Hooker. (Pitman.)
4. Book of School Weaving, by Reed (Evans Bros., Ltd., London).

XIII.—GENERAL SCIENCE (PHYSICS, CHEMISTRY AND BIOLOGY).

There will be two papers of three hours each as follows :

1st Paper—Physics and Chemistry.

2nd Paper—Biology and Chemistry.

(NOTE—Each paper will consist of eight questions, three of which will be in Chemistry.)

There will be also a practical examination.

SYLLABUS.

(It is assumed that candidates taking General Science have completed the Science course laid down for the Upper Middle section as questions may be asked from this course also in the High School Examination.)

I.—Physics.

Pressure at different depths in liquids. Density. Specific Gravity. Archimedes' Principle and its applications. Flotation (Ships, Airships, Balloons, Icebergs). Air-pressure. Effects of air pressure. Syringe. Simple water pump. How the pressure of the air is measured. Barometer movements and weather. Action of the foot-ball and bicycle pumps. Bicycle valve. Kites, aeroplanes. Steam pressure. Force on piston of steam engine. Simple manometer.

Rectilinear propagation of light. Candle-power. Plane mirrors. Laws of reflection. Images in spherical mirrors (no formulae). Refraction. Magnifying glass. Simple ideas about the principles and use of Camera. Dispersion and colour.

Electrification. Electroscope. Conductors and insulators. Magnets. Polarity. Earth's Magnetism. Compass needle. Cells and batteries. Electro-Magnet. Simple explanation of the telegraph and the electric bell. Simple galvanoscope. Heating and chemical effects of a current.

Sources of heat. Expansion of solids, liquids, and gases. Effects of expansion ; platinum and glass. Thermometers. Air and clinical thermometers. Freezing mixtures. Transference of heat. Davy's safety lamp. Winds. Cold nights with cloudless sky. Thermos-flask. Units of heat. Specific heat. Latent heat (no calculation). Cold on evaporation. Heat on compression. Humidity. Change of volume on melting. Boiling of liquids ; vapour pressure ; steam engine.

II.—Chemistry.

Solutions in water and other liquids. Crystallization. Slow and rapid evaporation. Saturated solutions. Elements, compounds and mixtures. Study of atmosphere. Oxygen and Nitrogen. Combustion ; slow and rapid. Flame. Water. Properties of Hydrogen. Ammonia. Limestone. Sodium carbonate and caustic soda. Hard and soft waters. Acids. Bases. Salts. Chemical symbols. Conservation of mass. Carbon : properties and varieties. Carbon dioxide. How plants use air. Respiration. Coal gas. Sulphur : properties and varieties. Sulphur dioxide. Chlorine. Hydrochloric acid. Phosphorus. Matches. Common salt. Properties of metals, non-metals. Alloys. Simple ideas of the properties of iron and steel. Petroleum : sources and use. Soap. Glass.

III.—Biology.

Life of Animals, based on the frog—External parts and their work. Internal parts and their work : Digestive system : food and digestion. Circulatory system and blood : work of blood and need for circulation. Lungs and breathing. Kidneys and excretion. Nervous system :

sensation and special senses. Muscles and movement. Bones and support. Reproductive system and reproduction. Habits and life-history of the frog.

Elementary physiology of the human body.

General survey of the animal kingdom—Illustrated mainly by local animals.

Life of plants based mainly on mustard (or bean plant)—Various forms of plants : trees, herbs, climbing plants, parasites, non-green plants. Parts of the plant and their work. Leaves : manufacture of food ; loss of water to air. Stem : carrying water and food ; support of leaves. Root : collecting water and salts from the soil ; holding the plant in position. Storage of food. Flower : pollination, fertilization, fruits, and the scattering of seeds. The new plant in the seed ; germination. Production of new plants from stems and roots.

General survey of the plant kingdom—Illustrated mainly by local plants.

The value of plants and animals to man—Food, fuel, clothes, power, building materials, medicines, pleasure, scavenging of waste materials (dogs, jackals, cows, bacteria, fungi).

Animals and plant that are harmful to man.

(1) That feed on man and animals : ticks, lice, fleas, bedbugs, mosquitoes, intestinal worms.

(2) That feed on plants : destruction of plants by insects.

(3) That cause disease in man and animals : animal parasites (malaria parasite, kala azar, hookworm) and bacteria (cholera, plague, smallpox, tuberculosis, rabies, etc.)

(4) That cause diseases in plants : parasitic fungi (mildews, smuts, rusts, etc.).

(5) That carry disease, insects (flies, fleas, sandflies, mosquitoes), rats.

(6) That destroy property : rats ; white-ants ; beetles, bacteria and molds in food ; wood-rotting fungi, etc.

(7) Control of parasites, disease-producing organisms and other pests ; by nature (birds and insect-eating insects) and by man.

IV.—Practical work.

The following list of experiments indicates the minimum amount of practical work required to be done by each student. Other experiments of equal educational value may be substituted. It should be possible for most teachers to get their students to perform additional experiments. The experiments should be performed individually as far as can be arranged. The teaching of theory should be fully illustrated by experiments and demonstrations which are to be considered an essential part of the teacher's work. The course in Biology will not require extensive expenditure on equipment and materials. Practically all materials can be collected from the local fauna and flora. No microscopic work is expected to be done individually by the pupils; only that may be done by demonstration on the part of the teacher, when he believes it will add to the effectiveness of the work.

NOTE—A chart giving a list of the experiments to be performed and the date on which each student completes each experiment should be maintained and hung in the laboratory at each school recognized in General Science.

Physics.

To show that the weight of a floating body is equal to the weight of the liquid displaced (using a loaded test tube in a graduated jar with different liquids).

Determination of the radius of a wire by Archimedes' Principle.

Determination of the relative density of (*a*) bodies which sink in water, (*b*) liquids.

To measure (*a*) the pressure of the lungs, (*b*) gas supply (if any).

Reflection at a plane mirror.

Focal length of (*a*) concave mirror, (*b*) convex lens by parallel rays method.

Relation between image and object produced by (*a*) concave mirror, (*b*) convex lens (no calculations).

Refractive index of glass and liquids.

Refraction through a prism.

Cooling curve of water and wax.

Determination of the apparent expansion of water (by heating water in a flask and noting rise in level of surface).

To compare heat required to melt ice and to boil water.

To show that the loss of heat of one body is equal to the gain of heat in another.

To map lines of force by a small magnet charging an electroscope.

Magnetic effect of a current.

Chemistry.

To observe the action of water on sodium, sodium chloride, potassium nitrate, sodium carbonate, copper sulphate.

Crystallization of a salt.

To observe the action of heat on potassium nitrate, calcium carbonate, copper sulphate, iron, zinc, tin, lead, mercury, sulphur, phosphorus.

To determine the change in weight due to oxidation when a substance is sufficiently heated in air.

To find the proportion of oxygen and nitrogen in air.

To prepare oxygen from potassium chlorate and study its properties.

To prepare hydrogen from zinc and sulphuric acid and study its properties.

To prepare chlorine from manganese dioxide and hydrochloric acid.

To prepare hydrochloric acid from sodium chloride and sulphuric acid.

To prepare ammonia gas from ammonium chloride and quicklime and study its properties.

To prepare carbon dioxide from limestone and hydrochloric acid and study its properties.

To find the volume of oxygen given off by heating 15 grams of potassium chlorate.

Biology.

Observation of living frogs ; habits and mode of life.

Demonstration of more important features of the internal parts. Students should sketch easier parts.

Observation of life history in the field and in the laboratory.

Demonstration of common representatives of the animal kingdom. Students should be encouraged to collect materials ; should be developed as a museum activity.

Collection and sketching of common plant forms.

Study and sketch of parts of plants.

Simple experiments, mainly demonstrations, to show accumulation of food (starch) in leaves exposed to light. That water is lost through the leaves. That plants require a continuous supply of water. That water rises through the stem. That CO_2 is given off during respiration. That plants grown in darkness are not green, but become green upon exposure to light. Process of germination ; study and sketch (bean, chana and castor bean).

Demonstration of common representatives of the plant kingdom. The project to be developed as for animals.

Observation and collection of insects that feed on cultivated plants.

Collection of fungus diseases of plants, especially of crop plants ; a study of the damage they cause.

Animals that carry disease ; their habits and life-histories.

Observation and study of plants and animals that destroy property.

Control of bacteria, by heat, drying, chemicals

Examination of the breeding places of mosquitoes, flies, rats. Experiments to show means of destruction.

Books suggested—

(1) Gregory and Hodges—Experimental Science for Indian Schools. (Macmillan.)
(2) Parsons—Every-day Science.
(3) Marie Stopes—Human Body. (Gill, London.) 5*s*.
(4) Green and Potter—Biology by Discovery. (J. M. Dent & Sons, Ltd., London.) 5*s*.
(5) Whitehouse—Assignments.
(6) An Introduction to Science, Books I and II (Basil Blackwell, Oxford). (*Recommended for general reading.*)

APPENDIX.

A note on the General Science course for the guidance of teachers.

The course in General Science consists of Physics, Chemistry and Biology and is intended to awaken the interest of young students in and give them an intelligent appreciation of things and life around them. With this general purpose in view, the syllabus is mainly descriptive and all quantitative relations are omitted. The teacher should keep this main purpose of the syllabus in mind in presenting the different sections of the subject and emphasize the part these sciences play in modern life. In Biology the teacher should emphasize the life-functions of frog and man rather than details of structure ; in plants, it is not the shapes and kinds of structures that should be emphasized, but the fact that the plant is a living organism. How animals and plants obtain their food, breathe, re-act to their surroundings and reproduce their life rather than elaborate details of structure is the important thing.

Practically every item of the syllabus can be illustrated by a simple experiment and students should be encouraged to learn the subject more from direct experience and demonstration rather than by reading books alone. The teacher is recommended carefully to prepare his material and experiments before their demonstration in the class and induce students to write out notes of what they have seen. These notes supplemented by reading of suitable books must form the basis of his knowledge of the subject.

The syllabus lays down a list of experiments in each section which the student is expected to carry out himself. This does not, however, limit the teacher's freedom of suggesting additional experiments in any section. The student in the practical room should, in fact, have free access to material or apparatus and might be allowed, wherever possible, to repeat for himself the experiments which were shown in the classroom.

XIV.—MUSIC.

(The same course as for the Diploma Examination in Indian Music.)

Physical Training.

Physical Training should be included as a non-examination subject for girls in recognized High Schools.

N.B.—Organized games and dancing should be introduced and encouraged, wherever possible, in recognized High Schools for girls.

DIPLOMA EXAMINATION IN INDIAN MUSIC.

There will be one paper of two hours' duration and a practical examination.

Marks are allotted as follows :

	Marks.
Theory paper	30
Practical examination	70

Pass marks in the total of Theory and Practical shall be 33 per cent.

Courses of study :

Theory.

Definitions and explanations of the following technical terms :

Sangeeta, Swara, Sudha Swara, Vikrit-swara, Saptaka, Aroha and Avaroha, Alankara, Raga, Thata, Sampoorna Raga, Shadava Raga, Oudava Raga, Vadi, Samvadi, Anuvadi, Vivadi, Poorva Raga, Uttararaga, Matra, Laya, Tala, Alapa, Tan, Pakarh, Dhrupad, Khyal, Tappa and Thumri.

Practical.

(*a*) Swaragyan.

(*b*) One Sargam, one Lakshan geeta and one classical song in each of the following Ragas :

Bilaval, Khamaj, Yaman, Kaphi, Asavari, Bhairavi, Bihag, Desh, Bhimpalasi, Piloo, Bhupali, Brindabani Sarang, Bhairav and Bageshwari.

(*c*) Tritala, Dadra, Jhaptala, Ektala, Chautala, Teevra, Kaharva, Deepchandi, and their Doons (double measure).

Out of 70 marks allotted for the practical test, 20 will be set apart for an oral test, 5 for finding out the practical knowledge of Ragas and 15 for Tal.

N. B.—In awarding marks, examiners are required to keep the following points in view :—

(1) The Alap of the Ragas.

(2) If Alap is well expressed, a knowledge of Lakshan Geeta is not essential.

(3) The oral test to cover Swara Gyan, Tal Gyan and correct intonations.

(4) The general effect produced by the Music rendered by the candidate.

Candidates for the Diploma Examination should be examined in institutions recognized for the examination and they should be required to bring their own musical instruments for the practical examination.

The following books are recommended :

For Theory—The Shastra Pravesh, 2nd, 3rd, and 4th parts, published by the Marris College of Hindustani Music, Lucknow.

Sangit Shiksha, Parts I—III, by S. N. Ratanjanker (Taluqdar Press, Lucknow).

For Practical Music—Selections of relevant Ragas and Songs from Sangit Balbodh, by Pandit Vishnudigambar Paluskar or from the Kramika Series, Parts I, II, and III, by Pandit V. N. Bhatkhande.

INTERMEDIATE EXAMINATION.

(*N.B.*—Alternative questions will be set in all question papers for the Intermediate Examination.)

The following grouping of subjects is approved for the guidance of students and teachers. The subjects have been so grouped that, while providing a sound general education, suitable as an introduction to University studies, they should also fit the students to enter upon higher specialized courses in technical and professional institutions :

General Arts—Mathematics, Economics, *Civics, Geography, Drawing, a Modern Indian or European Language, Logic, a Classical Language, History and Allied Geography, Histories of Greece and Rome and Allied Geography. (*Any three should be taken.*)

General Science—Mathematics, Drawing, Chemistry, Physics, Biology, Geography, Economics. (*Any three should be taken.*)

For Medicine—Chemistry, Physics, and Biology.

For Engineering—Mathematics, Physics, and Chemistry

For Teaching—(1) History, Civics, and Geography.
(2) History, Geography, and Mathematics.
(3) History, Geography and (Physiology, Hygiene and Child-Study) (*women students*).
(4) Geography, Mathematics and (Physiology, Hygiene and Child-Study) (*women students*).
(5) Geography (or Mathematics), Biology and (Physiology, Hygiene and Child-Study) (*women students*).
(6) History, Geography, and Economics.
(7) Mathematics, Geography and Economics (or Drawing).

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*Students taking Civics are advised also to take History.

(8) Mathematics, Physics, and Chemistry.

(9) Mathematics, Physics, and Biology.

(10) Chemistry, Physics, and Biology.

(11) Biology, Physics (or Chemistry) and Drawing.

(12) (Physiology, Hygiene and Child-Study), a Classical Language and History or Geography or Mathematics (*women students*).

(13) (Physiology, Hygiene and Child-Study), Drawing and Biology or Geography or a Classical Language (*women students*).

ENGLISH.

There will be *one* paper of three hours on the prescribed Prose course and a *second* paper of three hours on the prescribed Poetry course; and in each paper there will be one question on " Unseen " passages. The prose paper will contain one or more prose unseens and the poetry paper will contain one or more poetical unseens.

A *third* paper of three hours will include (*a*) translation from a *Modern Indian Language into English, and (*b*) an essay on easy subjects of general interest. The latter will include among the alternatives descriptive or narrative subjects. In the case of candidates who offer English as their mother-tongue, the third paper will consist of an essay, together with questions on English Composition and on the History of English Literature from 1500, as in Hudson's Outline of English Literature (Bell & Co.).

NOTES (1)—In the case of books prescribed for detailed study candidates will be expected to show a close familiarity with the text, including meaning of words, construction of sentences, historical and other allusions, as well as knowledge and understanding of the subject-matter. They should be able to indicate contexts and to paraphrase and explain any difficult passages in simple and correct English.

(2) In the case of books prescribed for general study detailed knowledge of the text will not be required, but candidates will be expected to show that they have read the course with intelligence and with some appreciation.

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*The vernacular passage will be a rendering from English.

Books prescribed :

Prose—(*a*) For detailed study—

1. Models of Comparative Prose, by Pearce and Aryaratna (Oxford University Press). Rs.2-8-0,

or

English Prose Selections, by Sidhanta and Deb (Macmillan). Re. 1.

Note—Every college must select for study either of the above two books.

2. Six Short Biographies, by Goffin (Oxford University Press). Rs.2.

(*b*) For general study—

1. Dickens : A Tale of Two Cities (Abridged by C. H. Russell—Macmillan.)

2. Modern Short Stories, by various writers (University of London Press). 2*s*.

Poetry.—(*a*) For detailed study—

1. Byron—Prisoner of Chillon.
2. Gray—Elegy written in a Country Churchyard.
3. The Tide of Time, edited by Sir Henry Newbolt (Nelson & Son), Re.0-14-0, from which the following poems are prescribed :

W. H. Davies—"Oh, Sweet Content."
Dekker—"O Sweet Content."
Barnes—" Ah, Sweet Content."
Dela Mare—"Tartary."
Newbolt—" The Hundredth Year."
Keats—" In a drear-nighted December."
M. Coleridge—" Egypt's Might."
John Clare—" Song's Eternity."
M. Coleridge—" Sleep."
Fletcher—" Care-charming Sleep."
Daniel—" Care-charmer Sleep."
Dela Mare—" Ev'n in the Grave."
M. Coleridge—" To forget."
R. Jones—" That Secret Book."
Swinburne—"Before the Beginning of Years. "
George Herbert—" The Pulley."

Or

Pleasures of English Poetry : edited by Gokal Chand (Oxford University Press), Rs.2, from which the following poems are prescribed :

Wordsworth—" Up, Up, my Friend."
Fitzgerald—" Omar Khayyam."
Tennyson—" The Brook."
Morris—" All for the Cause."
Tagore—" The Champa Flower."
Tagore—" Traveller."
Dela Mare—" Tartary."
Shakespeare—" Remembrance."
Milton—" On his Blindness."
Wordsworth—" The World is too much."
R. Brooke—" The Soldier."
W. H. Davies—" Sweet Stay at Home."

NOTE—Every College must select either ' The Tide of Time ' *or* ' Pleasures of English Poetry ' for study.

(b) For general study—

Shakespeare—The Twelfth Night.

Recommended for use by students :

The Pocket Oxford Dictionary.

NOTES—(*a*) Half the total number of marks will be allotted to the portions for detailed study, 30 per cent. to the portions for general study, and 20 per cent. (*i*) in the Prose paper to Unseen Passages and (*ii*) in the Poetry paper to Unseen Passages and Elementary Prosody and figures of speech.

(*b*) The questions in the Poetry paper will include scansion of regular lines, demanding a knowledge of Iambic, Trochaic, Anapaestic and Dactylic metres and also principal figures of speech, viz., Metaphor, Simile, Hyperbole, Onomatopaeia, Personification, Apostrophe, Pathetic fallacy, Oxymoron.

(*c*) The attention of candidates is drawn to the fact that examiners are instructed to deduct marks for inaccuracy in English.

MATHEMATICS.

There will be three papers of three hours each ; one paper in Algebra and Trigonometry, a second in Mensuration and Analytical Geometry, and a third on Elementary Dynamics and Statics.

(1) (*a*) *Algebra*—Quadratic equations involving two or more unknown quantities ; the theory of quadratic equations and of expressions of the second degree ; surds and imaginary expressions ; arithmetical, geometrical and harmonical progressions ; permutations and combinations ; theory of indices and logarithms ; proof of binomial theorem for a positive integral index and the use of binomial and exponential theorems for any index, and of the logarithmic series.

(*b*) *Trigonometry*—Including solution of triangles and simple problems on inscribed, circumscribed, and escribed circles.

(2) (*a*) *Analytical Geometry*—Straight line, pair of straight lines, circle (including radical axis and pole and polar) ; equation to parabola in form $y^2=4$ ax and simple properties deduced therefrom ; simple properties of tangents and normals to the ellipse deduced from the equation $\frac{x2}{a2}+\frac{y2}{b2}=1$. (Oblique, cartesian and polar co-ordinates will not be required.)

(*b*) *Mensuration of Solids*—Surfaces and volumes of parallelepipeds and right prisms, pyramids, circular cylinders and cones, spheres and spherical segments ; frusta of pyramids, cones and spheres.

The use of Trigonometry and Logarithms will be permitted in solving numerical examples.

(3) *Dynamics and Statics*—Velocity, composition of velocities ; relative velocity ; acceleration, rectilinear motion under uniform acceleration, composition of accelerations ; Newton's Laws of motion ; rectilinear motion under gravity in a vertical and down an inclined plane ; motion of two masses connected by a string passing over a pulley ; projectiles ; direct impact of smooth bodies ; definition and calculation of kinetic energy ; co-planar forces, parallel and non-parallel, and their composition ; equilibrium of a body under three forces ; moments ; conditions of equilibrium of a body under a system of co-planar force and simple examples ; centre of gravity ; friction ; work and power simple machines (lever, balance, system of pulleys)

NOTE.—The use of stencils and slide rule in answering questions in Mathematics is not allowed.

The following books are suggested (*not prescribed*) in addition to more elementary text-books :

1. School Algebra, H. S. Hall, Parts I—III.
2. School Algebra, Part II, by Paterson (Clarendon Press).

3. Elementary Algebra, Part II, by P. Ross (Longmans).

4. Higher Algebra, Chapters I—XVII, by Hall and Knight (Macmillan).

5. Tutorial Algebra, by Briggs and Brian (University Tutorial Press).

6. Algebra for Intermediate Colleges, by M. A. Butt (Indian Press, Ltd., Allahabad).

7. Hall and Steven's School Geometry, Part VI.

8. Elements of Analytical Geometry, Part I, by Wanchoo (Indian Press, Ltd., Allahabad).

9. Co-ordinate Geometry, by Smith or Loney (Macmillan).

10. Intermediate Trigonometry, by C. C. Ghosh (Macmillan).

11. Plane Trigonometry, Part I, by S. L. Loney (Macmillan).

12. Plane Trigonometry, by Deva Prasad Ghosh (Modern Book Agency, 10, College Square, Calcutta). Rs. 2-4-0.

13. Plane Trigonometry (Indian Press, Allahabad). Rs.2.

14. Elements of Statics and Dynamics, by Loney (Cambridge University Press).

15. Tutorial Statics, by Briggs and Brian .. .. ..
16. Tutorial Dynamics, by Briggs and Brian .. .. ..
} (University Tutorial Press).

CHEMISTRY.

(*N.B.*—Candidates will be required to pass in the theoretical as well as the practical part of each Science subject.)

There will be two papers of three hours each and a practical examination. The first paper will include metals and non-metals and the second paper mainly physical Chemistry and organic Chemistry.

The following syllabus is prescribed :

Elementary and compound substances, mixtures, solution, chemical action, the fundamental laws of chemical combination, simple methods of the determination of equivalent weights, atoms, molecules, atomic and molecular weights, vapour density, the atomic theory and Avogadro's hypothesis, combination of gases by volume.

Valency, relation between equivalent and atomic weights, simple methods of determination of atomic weights, Dulong and Petit's law, Boyle's law, Charles' law, vapour pressure, diffusion.

Chemical symbols, formulae and equations, calculations of an easy nature.

Oxidation and reduction, catalysis.

Elementary ideas as to the nature of dissociation in gases, electrolytic dissociation theory.

The Periodic law studied from elements prescribed in the course.

Preparation and important properties of the following elements and compounds and proofs of the composition of the compounds marked* :

Hydrogen, oxygen, water*, ozone, hydrogen peroxide, nitrogen, the atmosphere*, the effects of animal and vegetable life upon its composition, ammonia*, nitric acid and nitrates, nitrous acid and nitrites, nitrous* and nitric* oxides, nitrogen peroxide, carbon, carbon* dioxide, carbon* monoxide, elementary ideas about combustion and structure of flame, coal gas, chlorine, hydrochloric* acid, chlorides, chlorine peroxide, chloric acid and chlorates ; bromine, iodine, their hydracids and salts.

Sulphur, hydrogen* sulphide, sulphur* dioxide and trioxide, sulphuric acid and sulphates, sulphurous acid and sulphites.

Phosphorus, hydrogen phosphide, chlorides of phosphorus, phosphorus trioxide and pentaoxide, orthophosphoric acid.

Silica, silicates of Na, K & Ca, glass.

Sodium, potassium, their hydroxides, chlorides, nitrates, carbonates, sulphates, and common ammonium salts.

Calcium, strontium, barium, and their oxides, carbonates, sulphates, chlorides, nitrates.

Magnesium, its oxide, chloride, sulphate, carbonate and nitrate.

Lead, its chloride, sulphate, nitrate, carbonate and acetate.

Copper, the outlines of its metallurgy, its oxides, chlorides, sulphate, nitrate and sulphides. Brass.

Iron, the outlines of its metallurgy, its oxides (FeO, Fe_2O_3, Fe_3O_4), chlorides, sulphates and sulphides.

Zinc, its oxide, chloride, carbonate and sulphate.

Mercury, oxides, chlorides, nitrates, sulphide.

Aluminium, oxide, chloride, sulphate and alum.

Arsenic, hydride, oxides, sulphides.

Antimony, hydride, oxides, chlorides, sulphides.

Tin, oxides, chlorides, sulphides.

Silver, oxide, hydroxide, chloride, bromide, iodide, nitrate and sulphate.

(NOTE—Students will be required to know the extraction of metals from their ores.)

Organic :

A—The preparation, typical properties and structural relationship of the following compounds :

Methane, ethane, ethylene, acetylene, ethyl bromide, chloroform, iodoform.

Methyl alcohol, ethyl alcohol, and ether.

Formaldehyde, acetaldehyde, and acetone.

Formic acid and acetic acid.

Ethyl acetate and methyl acetate.

Acetamide, acetyl chloride, acetic anhydride.

Methylamine.

B—The simpler properties of the following :

Glycerol, oxalic acid, tartaric acid, fats, soaps (and saponification), starch, cane sugar, grape sugar (and fermentation), urea, benzene, nitrobenzene, phenol, aniline, benzoic acid, proteins.

Practical Work.

Students will be examined in Practical Chemistry.

Students are expected to perform the following experiments in the laboratory. An account of each experiment must be written by the student in a special note book, which will be liable to examination by the examiners. This notebook should be kept in the charge of the laboratory instructor and each account of an experiment should be signed by him. The Principal of a College will be responsible for the production of this notebook when demanded by the proper authorities.

The *practical* course is as follows :

1. Such practical work as is required for the High School Examination of 1937.

2. (*a*) Analysis of simple salts soluble in water or hydrochloric acid composed of acids and bases mentioned in the following list :

Ag, Pb, Hg, Cu, Cd, Bi, As, Sb, Sn, Fe, Al, Cr, Ni, Co, Zn, Mn, Mg, Ca, Sr, Ba, Na, K, NH_4, Cl, Br, I, ClO_3, SO_4, SO_3, NO_3, NO_2, PO_4, S, CO_3, C_2O_4, acetate (*dry and wet methods*).

2. (*b*) Analysis of a mixture containing four radicals, two acidic and two basic, soluble in water or hydrochloric acid, not containing a phosphate or an oxalate of a metal beyond the third group and not having two metals belonging to the same group.

3. Preparation and purification of simple salts involving no special difficulty.

4. (*a*) Simple gravimetric experiments, such as change in mass on oxidation of magnesium and on heating barium chloride, sodium bicarbonate, or ferrous ammonium sulphate.

b) Simple volumetric exercises such as preparation of standard solutions by weighing (Na_2CO_3, Oxalic acid, etc.) and estimation of alkalies and acids by titration.

5. Determination of melting and boiling points.

6. Qualitative detection of nitrogen, sulphur, and one of the halogens, alone or together, in an organic compound.

Books suggested—

1. J. W. MELLOR : Introduction to Inorganic Chemistry (Longmans).
2. ROSCOE AND HARDEN : Inorganic Chemistry for Advanced Students.
3. A Class-book of Organic Chemistry, by J. B. Cohen.
4. Organic Chemistry, Parts I and II, by Perkin and Kipping. (W. and R. Chambers).
5. DONINGTON'S Class-book of Chemistry, Parts 1—4.
6. HOLMYARD'S Inorganic Chemistry. (Arnold). 6*s*. 6*d*.
7. HOLMYARD : Practical Chemistry. (Bell & Sons, Ltd.). 4*s*.
8. OSCROFT : Inorganic Chemistry for Upper Forms. (Bell & Sons, Ltd.) 6*s*. 6*d*.
9. MALVEA : Practical Chemistry for Intermediate Colleges. (Indian Press, Allahabad.) Rs.2.
10. NEWTH : Chemical Lecture Experiments for Teachers' use (latest edition). (Messrs. Longmans, Green & Co.). 8*s*. 6*d*.

11. **Holmyard** : Introduction to Organic Chemistry. (Arnold.)
12. **Bruce and Harper** : Practical Chemistry, 1925 edition (Macmillan).
13. **Rane and Kulkarni** : Practical Chemistry for Intermediate Students (Nand Kishore and Brothers, Benares).
14. **Rane** and **Varma** : Organic Chemistry (Nand Kishore and Bros., Benares).
15. **Bailey and Snellgrove** : Intermediate Inorganic Chemistry, volume I non-metals and volume II mainly metals (University Tutorial Press, Oxford).
16. **Rane** and **Varma** : Inorganic Chemistry (Nand Kishore and Bros., Benares).
17. **Jindal** and **Kumar** : Inorganic Chemistry for Intermediate Classes (Ram Narain Lal, Allahabad).

PHYSICS.

(*N.B.*—Candidates will be required to pass in the theoretical as well as the practical part of each Science subject.)

There will be two papers of three hours each as follows :

1st Paper—Properties of Matter, Heat and Light.

2nd Paper—Sound, Electricity and Magnetism.

Syllabus :

Mechanics and general properties of matter.—Fundamental units and their measurement, balance, verniers, calipers, screw-gauge, spherometer, specific gravity, fluid pressure, principle of Archimedes, hydrometers, barometers, Boyle's law, pumps, siphon, Young's Modulus, volume elasticity, Isothermal and Adiabatic elasticities of gases, gravitation, laws of motion, force, acceleration, value of " G, " work, energy, simple harmonic motion, simple pendulum, laws of parallelogram and triangle of forces, parallel forces, couple, moment, laws of simple machines such as pulleys and levers.

Heat.—Temperature. Thermometers. Calorimetry. Specific heat. Latent heat. Expansion of solids, liquids and gases. Vapour pressure. Hygrometry. Change of state. Laws of unsaturated and saturated vapours. Conduction. Convection. Radiation. Reflection and absorption of heat. Isothermal and adiabatic changes. Specific heat at constant volume and constant pressure. Relation of heat to work. Determination of J. Simple ideas of steam and petrol engines.

Light.—Laws of propagation. Reflection and refraction from plane and spherical surfaces. Dispersion. Rainbow. Spectra. Fraunhofer's lines. Telescope. Microscope. Spectrometer. Photometry. Phosphorescence. Fluorescence. Velocity of light.

Sound.—Transverse and longitudinal waves. Nature of sound waves. Intensity. Pitch. Quality. Mode of propagation. Reflection. Refraction. Stationary waves. Beats. Resonance. Vibrations of strings and air columns. Monochord and organ pipes. Determination of velocity in solids, liquids and gases. Musical scale. The gramophone.

Magnetism and Electricity.—Magnetisation. Permanent magnets. Magnetic induction. Pole strength. Magnetic field. Lines of force. Tangent A and B positions of Gauss. Deflection and vibration magnetometers. Magnetic moments. Earth as a Magnet. Magnetic elements. H. Declination and Dip and their determinations. Electrostatic unit of quantity. Inverse square law of force. Electric field. Gold leaf electroscope. Surface density. Potential. Capacity. Leyden jar. Capacity of a parallel plate condenser. Electrophorus. Wimshurst's machine.

Voltaic cells. Electric current and its magnetic effects. E. M. unit of current. Galvanometers. Ammeters. Voltmeters. Ohm's law and its verification. Resistance and Potential difference. Specific resistance. Practical and absolute units. Determination of resistance. Wheatstone's bridge. P. O. Box. Potentiometer. Heating effect of current. Joule's law. Determination of J. Electric glow lamp. Electric arcs. Chemical effects of current. Faraday's laws of Electrolysis. Electrochemical equivalent. Voltameters. Storage Cells. Electromagnetic relations. Electro-magnetic induction. Induction coil. Simple dynamo Motor. Electric Telegraph. Telephone. Microphone. Thermopile. X-ray.

Books suggested—

1. A Text-book of Physics, by R. S. Willows. (Messrs. Arnold & Co.).

2. Everyday Physics, by H. E. Hadley. (Macmillan & Co.). Rs.4.

3. A Text-book of Practical Physics for Intermediate Classes, by S. R. Suri (Uttar Chand Kapur & Sons, Lahore). Rs.4.

4. An Intermediate Course and Practical Physics, by B. N. Ghose (Ram Narain Lal, Allahabad). Rs. 2.

There will be also an examination in practical work.

The following list of experiments indicates the minimum amount of practical work to be done by each student. It should be possible to perform other experiments in addition. An account of each experiment must be written by the student in a special note book which will be examined. The account of each experiment should be signed by the Demonstrator, and the books should be kept in his charge.

LIST OF EXPERIMENTS

Mechanics—

Applications of the Triangle of Forces.
Determination of "*g*" by the pendulum.
Nicholson's hydrometer.
Determination of Young's Modulus of a wire.

General properties of Matter—

Use of the Spherometer.
,, Screw Gauge.
,, Calipers.
Reading the Barometer.

Heat—

Testing fixed points of Thermometers.
Determination of Specific Heats.
,, Latent Heats.
Construction of a graph illustrating the rate of cooling of a liquid.
Verification of Boyle's law.
Determination of the co-efficient of linear expansion.
Determination of the relation between the pressure and temperature of a gas when its volume is kept constant.
Determination of humidity by dry and wet bulb thermometer.

Light—

Reflection and refraction of light at plane and spherical surfaces.

Determination of refractive indices.

Focal lengths of mirrors and lenses.

Sound—

Determination of the velocity of sound by resonance.

" " frequency of a fork by sonometer.

Magnetism—

Mapping outlines of force by a small magnet.

Location of neutral points and their use in magnetic measurements.

Comparison of magnetic moments by the magnetometer.

Comparison of magnetic fields by a vibrating magnet.

Electricity—

Variation of magnetic force at centre of a coil with radius, number of turns and strength of current.

Determination of resistance by the use of Wheatstone's wire bridge and P. O. Box.

Determination of resistance by the use of Ammeter and Voltmeter.

Comparison of electromotive forces by the potentiometer.

Note—The use of stencils in answering questions in Physics is not allowed, but logarithms and the slide rule may be permitted in the practical examination in Intermediate Physics.

Recommended for teachers' reference library :

(1) Text-book of Heat, by Stewart and Satterly (University Tutorial Press).

(2) Text-book of Light, by Stewart and Satterly (University Tutorial Press).

(3) Text-book of Sound, by Catchpool (University Tutorial Press).

BIOLOGY.

There will be two papers of three hours each and a practical examination : the first paper on Zoology and the second paper on Botany.

The following syllabus is prescribed. Instructions for the teaching of Biology are appended ;

I.—Zoology.

(*N.B.*—Candidates will be required to pass in the theoretical as well as the practical part of each Science subject.)

A—Living and non-living matter. The distinctive properties of living matter (protoplasm) and its chemical composition. The structure and life-history of Amoeba and the malaria-parasite as examples of the Protozoa. A general conception of the structure and phenomena of the animal cell; direct and indirect cell division. The union of cells to form tissues and the combination of tissues to form organs.

B—The structure of Hydra as an example of the Metazoa. The principle of the physiological division of labour and the correlated differentiation of structure.

C—The structure and bionomics of an Indian earthworm as an example of a segmented animal.

D—The structure of the cockroach as a type of Arthropoda. A general survey of the life-history of the mosquito and house-fly, and their economic importance.

E—The general characters of the Chordata.

F—The general anatomy, histology and physiology of the various systems or organs in the frog.

G—An elementary knowledge of the anatomy and osteology of the rabbit or other common mammal. The brain and eye of the sheep and the skull of the dog may be substituted for those of the rabbit.

H—A general classification of the animal kingdom with the characteristics of the principal phyla.

I—Reproduction, sexual and asexual; ova and spermatozoa; oogenesis and spermatogenesis. The elementary facts of the fertilisation and segmentation of the ovum, the outlines of the development and larval history of the frog, the three primary germ-layers and the organs derived from them.

II.—Botany.

(*N.B.*—Candidates will be required to pass in the theoretical as well as the practical part of each Science subject.)

A—The structure and germination of seeds, the morphology of the root, stem, and leaf. The chief types of floral structures. The chief types of inflorescence and the common types of fruits.

B—The parts of a typical vegetable cell ; the cell contents and their microchemical reactions ; the division of a cell ; the chief types of plant tissues. A comparative study of the internal structure of the root, stem, and leaf of the Angiosperms. The structure of the reproductive organs of the Angiosperms.

C—The structure of Bacillus subtilis and the modes of nutrition among the Bacteria.

D—The structure, physiology and life-histories of Ulothrix, Spirogyra, Mucor and yeast.

E—The structure and life-histories of a moss and a fern, and the phenomenon of alteration of generations.

F—The life-history of Angiosperms. General structure of flowers and fruits. Recognition and economic importance of the following families :

Cruciferae, Malvaceae, Leguminosae, Compositae and Liliaceae.

G—An outline of the classification of the vegetable kingdom to illustrate grades of structure and methods of reproduction.

H—Elementary plant physiology ; stability of the plant body ; the usual constituents of plant food ; assimilation ; transpiration ; respiration ; the main facts about growth ; the chief types of movements.

Practical work.

Students are expected to keep a record of all practical work in a special laboratory sketch-book, which will be liable to examination by the examiners. The laboratory instructors should sign the result of each day's practical work.

A—The microscopical study of Amoeba and Hydra ; the study of Hydra by means of transverse and longitudinal sections.

The general dissection of the earthworm, cockroach and frog ; life-history of the mosquito ; a microscopical study of the chief animal tissues from fresh or prepared preparations of muscle, nerve, cartilage, bone, blood and connective tissue ; the microscopical study of the earthworm by means of fresh preparations and transverse sections ; a microscopical examination of the kidney, liver, spinal cord, stomach, ovary and testis of the frog. The skeleton of the frog.

The osteology of the rabbit (the skull of the dog may be substituted for that of the rabbit) and the dissection of the alimentary, vascular and reproductive systems of the rabbit or squirrel or rat.

B—The dissection of plants and parts of plants; the preparation, simple staining and study of microscopical sections of plants. A practical study by microscopical examination and otherwise of Spirogyra, Ulothrix, bacteria, yeast, Mucor, a moss, a fern, and the vegetative and reproductive organs of Angiosperms treated in an elementary manner.

The description of a flowering plant and its parts in semi-technical language.

(Where fresh material cannot be obtained recourse should be had to prepared specimens.)

Books suggested—

1. PARKER AND BHATIA: Elementary Course of Practical Zoology. (Macmillan.)
2. HOLMES: Biology of the Frog (4th edition).
3. MARSHALL AND HURST: Practical Zoology. (Murray.)
4. RANGACHARI: Handbook of Botany for India. (Varadachary & Co., Madras, 1925.)
5. HUXLEY: Elementary Physiology. (Macmillan.)
6. SHIPLEY: Life. (Ditto.)
7. BAHL, K. N.: Indian Zoological Memoirs. I, Pheretima (Methodist Publishing House, Lucknow, 1926), Re.1-8.
8. SMITH, OVERTON and OTHERS: Text-book of General Botany, second edition (Macmillan & Co.).
9. WELLS AND DAVIES: Text-book of Zoology, 7th edition (University Tutorial Press).
10. MARSHALL: The Frog (Macmillan), (latest edition).
11. M. J. LEGOC.: An Introduction to Tropical Botany (Macmillan and Co.).

APPENDIX.

Instructions for the teaching of Biology.

1. The teacher must consider the purpose for which he teaches Biology—to prepare students for the university, for medical and forest colleges, and for more intelligent and more joyful living. Biology

deals with the world of life surrounding the student, and every effort should be made to present Biology as a living subject, rather than as a vast mass of unrelated and (to the students) often meaningless facts to be memorized.

2. Teachers may take more liberty in teaching Biology than has been considered possible in the past. They should feel that they are not too rigidly bound by the syllabus. Much of what is commonly accepted as the interpretation of the syllabus, and as the proper content of Biology, is a tradition from the past. Teachers may, to a much larger extent, determine for themselves what they are to regard as the proper things to include in their teaching, and the proper emphasis to be given to these things ; the syllabus will then become a friendly guide.

3. The syllabus is a record of work that ought to be covered, and the teacher may take up the various topics in whatever order he thinks best.

4. The additional items in the new syllabus are not intended to enlarge the syllabus, but to shift the emphasis given to the various parts of it. For instance, it is not intended that the cockroach shall be studied in minute detail, but that it shall be made the basis for acquaintance with the great assemblage of arthropods. The mosquito is to illustrate metamorphosis, and is used because of the great importance of mosquitoes to man, because it can be observed anywhere, and because it can be readily reared in the laboratory. The mosquito is to illustrate also the carrying of disease by insects, and the malaria-parasite is an illustration of a disease-producing organism transmitted by an insect. The economic and bionomic importance of these animals is to be emphasized, rather than complete details of their structure.

Likewise, it is intended to allow considerable freedom to the teacher by permitting the use of mammalian types that are most readily available. The purpose is to become acquainted with the characteristic features of mammalian anatomy, rather than with minute details of one animal only to the exclusion of all others.

In Botany more emphasis should be put on what plants do, and how they work, than on extensive study of various growth forms which have little meaning for the students unless correlated with the great problems of plant economy. Moss is added to the syllabus as a simple, clear and easily accessible plant illustrating sex organs and alteration of generations ; it should be treated from this point of view, and no effort should be made to consider its anatomy in the detail usually regarded necessary in the fern.

DRAWING.

There will be two papers, each of three hours' duration : the first paper on Solid Geometrical Drawing and the second paper on Free Arm and Memory Drawing.

The second Drawing paper shall consist of two parts (*a*) a drawing from a group of objects placed and retained before the class during the examination period and (*b*) a question based entirely on memory. The number of marks of (*a*) and (*b*) should be equal.

Syllabus—

Free Arm—In Pastels on Tinted Paper or Water Colours on white Cartridge paper.

Progressive work in groups of the common objects listed for High schools such as—

Plate of Oranges, Tomatoes and Bananas ; Candle-stick and Matches, Ink-pot and Pen, Gloy Bottle and Brush ; Bundles of Firewood ; Glass of Water or Milk, Chinese Lantern, Liquids in Bottles ; Umbrellas, etc.

Nature Study (*Advanced*).—The more difficult Flowers, Bunches of Flowers, Leaves with Fruit and Flowers, Compound Leaves.

The above, which is but suggestive, will involve instruction in the art of blending colours, colour harmonies, colour schemes and shadows, together with technicalities such as tint-softening, blending, direct colouring, light tint on dark and dark on light, use of opaque colours and backgrounds.

Memory Drawing.—(*a*) Objects such as listed above which may be placed before students for a limited period, after which the objects shall be taken away and the drawing made.

(*b*) The drawing of some familiar and common objects entirely from memory.

A number of small objects may be placed once a week on a covered up tray, exposed, say, for ten seconds, and the class be asked to write down as many objects as they remember to have seen.

Books recommended.—Pastel work, vols. I and II, by H. A. Rankin. (Messrs. Isaac Pitman & Sons.) Price Rs.4 per volume.

Materials.—As for the High School Examination of 1937 (Free Arm).

Geometrical.—Solid Geometry, simple solids, plans, elevations, sections and sectional elevations of such, isometric and orthographic projection, simple parallel and angular perspective, and all forms of Plane and Diagonal Scales.

Books recommended :

1. Geometry, Plane and Solid (Morris) (Longmans, Green, and Co., Bombay).
2. The Roorkee Treatise on Drawing, Part I only (Roorkee Thomason College Book Depot, Roorkee).
3. The Principles of Perspective, by Henry Lewis (George Rowney & Co., London). Price 1*s*. 6*d*.

Materials.—School Geometry set (Reeves).

Book recommended for reference by teachers—

Perspective for Arts Students (Hatton).

ECONOMICS.

There shall be two papers of three hours each. The first paper shall cover Production, Consumption and Taxation, and the second paper Exchange and Distribution.

Introductory.

Subject-matter. Relation to other sciences. The development of Economic life.

Production.

Relation between wants and production. The factors of production.

Land.—Natural resources of India. Soil and Climate. Sources of power. Raw materials. Importance of land as an agent of production. The demand for land for different uses, agricultural, industrial and commercial.

Labour.—Density and distribution of population in India. Health and vital statistics. Occupations. Supply and efficiency of labour.

Capital (*fixed and circulating*).—Buildings and machinery. Means of communication and transportation in India. Irrigation.

Organization (*management plus enterprise*).—Combination of the factors of production in village industries and in factories. Efficiency of the factors of production. Different uses and how efficiency increases. Efficiency of labour increased by education. Division of labour and specialization of machinery. Large-scale production and its limitations. Cottage industries in the United Provinces. Diminishing and increasing returns. Development of industrial organization. Its relation to means of transportation. Accompanying changes in rural industries and in agriculture in India. Extensive and intensive cultivation.

Exchange.

Barter.—Conditions of barter. How both parties gain in utility by exchange.

Exchange by sale and purchase. Demand and supply schedules and curves. Balancing of demand and supply in a local market. Relation of price to expenses of production. Changes in the expenses of production. The development of markets. Causes of the extension of markets. India's imports and exports.

The machinery of exchange. Money. Kinds of functions of money. Standard and token coins. Free and limited coinage. Monetary standards (single and double). Gresham's law. Convertibility of paper money in India. Credit and Credit Instruments. Hundies and Cheques. Main types of Indian banks and their functions. The *sahukari* and *sarafi* systems. All the above should be illustrated by Indian examples. (*Foreign exchanges and the history of Indian currency and banking are excluded*.)

Distribution.

The problem of distribution.

Rent.—The law of rent as applied to India. Land tenure in the United Provinces.

Salaries and wages—Real and money wages. Wages as determined by supply and demand of labour. The standard of living. Mobility of labour in India. Influence of social customs.

Interest.—Gross and net interest. Conditions of the growth of capital. Mobility of capital in India. Principles of co-operative credit and its advantages for India.

Profits.—As the reward of enterprise. The field for enterprise in India.

Consumption.

Utility.—Marginal and total utility. Law of diminishing utility. Law of demand. Elasticity of demand.

Satisfaction as the end of all economic activity. Wants and their classification. Division of income among different items of expenditure. Family budgets. Relation of saving to spending. The social side of spending.

Taxation.

A description of the taxes and other sources of revenue and items of expenditure of the Imperial Government, of the United Provinces, and of the District Boards and Municipalities of the United Provinces ; simple distinction between direct and indirect taxes. (Nothing of the theory of taxation is to be taught.)

NOTE—Candidates may be required to draw charts, graphs and maps in the written examination, to frame budgets and analyse them, and to solve problems relating to costs of production.

The following books should be consulted :

1. B. G. Bhatnagar—Outlines of Economics for Beginners in India (Indian Press, Allahabad).
2. *Moreland*—Introduction to Economics for Indian Students. (Macmillan & Co.)
3. India in—(the latest edition of the book available in July, 1935, being recommended), published by the Central Publicity Office. (Chapters dealing with economic progress only are to be read.)
4. *P. Banerjee*—A Study of Indian Economics (3rd edition, 1928). (Macmillan & Co.)
5. *J. E. Symes*—A Short Text-book of Political Economics (Longmans, Green and Co.).

6. *E. C. Bhatty*—A Handbook of Practical and Written Work in Economics. (Indian Press, Allahabad.)
7. Elements of Civics, Vol. I, by Brown and Dutta (Oxford University Press).

Teachers should also consult—

1. *V. G. Kale*—Indian Economics. (Aryabhusan Press, Poona.)
2. *Marshall*—Economics of Industry. (Macmillan & Co.)
3. *Clay*—Economics for the General Reader. (Macmillan & Co.)
4. *Jack*—Economic Life of a Bengal District. (Clarendon Press, Oxford.)
5. *Mann*—Life and Labour in a Deccan Village. (Oxford University Press.)
6. *B. G. Bhatnagar*—Bases of Indian Economy. (Ram Narain Lal, Allahabad.)
7. *Lettice Fisher*—Getting and Spending. (Collins' Clear Type Press, London.) 3*s*. 6*d*.
8. *Jathar and Beri*—Indian Economics (2 volumes). (Oxford University Press.)
9. *Crump*—A Loose Book of Economics. (Macmillan and Co.)
10. *Fairchild*—Elements of Economics.
11. *F. H. Robinson*—Elements of Economics, Books I and II.
12. *J. P. Singhal*—Elements of Economic Principles. (University Book Depot, Agra.)
13. *Thomas*—Elements of Economics. (The Gregg Publishing Co.)
14. Report on an Enquiry into Working Class Budgets in Bombay, by G. Findlay Shirras. (Government of Bombay Labour Office).
15. *R. K. Mukerji*—Rural Economy of India. (Longmans, Green & Co.)
16. Intermediate Economics, 4th edition, by Sh. Ataullah, M.A. (Punjab Printing Works Book Depot, Lahore).

Teachers should give facts and figures from the latest edition of the Indian Year Book (" Times " Press).

Practical work.

Teachers should take out students to study small industries, markets and conditions of living in both city and country. The principles should be illustrated from these studies. The following is the minimum amount of practical work that should be done by students :

(1) Two budgets of consumption : one of an artisan, one of a cultivator, if possible, with the student's own suggestion for improvement.

(2) Two statements showing the expenses of production, for one month, or a longer period, or for a fixed quantity of product of two small industries, with suggestions for the improvement of the industry.

(3) Four diagrams illustrating the above four statements.

(4) Two maps representing economic conditions in India or parts of India.

Written work.

Teachers should insist on as much written work as possible. The following methods are suggested :

Essays—Occasional essays may be assigned.

The following written work is the minimum to be done by each student :

(1) Two long examinations of at least 2½ hours each or six one period tests, or one such examination and three such tests.

(2) Ten questions set in class to be answered in about ten minutes each.

(3) Two essays of about ten pages, or four essays of about five pages. (One long essay and two short essays are advised.)

In the case of *private candidates* double the number of essays *plus* a description of a market or fair and of a cottage industry or a Co-operative Society may be submitted in place of items nos. (1) and (2) of the written work.

CIVICS.

There will be two papers of three hours each : the first paper on Civic Theory and the second paper on Indian Civics.

Paper I—Civic Theory.

Syllabus—

1. The meaning of Civics, its scope and the relation of Civics with other social sciences.

2. The origin of Society and State, and the types of association—
   - (*a*) Association based on kinship, relation of individual and family, class, etc.
   - (*b*) Association based on religion, relation of individual and community.
   - (*c*) Association based on occupation, relation of individual and economic group.
   - (*d*) Association based on political interest, relation of individual, nation and humanity.

3. The individual and the State, Sovereignty.

4. The meaning of citizenship, the rights and duties of the citizen—civil and political.

5. The end and functions of the State.
   - (*a*) Principles of State activity.
   - (*b*) Functions of the State—defence, maintenance of law and order, material welfare, education.

6. The forces of political activity—
   - (*a*) Public opinion and Press.
   - (*b*) Party system.
   - (*c*) Moral and religious influences.

7. The structure of the government.
   - (*a*) Legislature, executive, judiciary.
   - (*b*) Central and local administrations.
   - (*c*) The methods of representation and process of elections.

8. The classification of States—
   - (*a*) Monarchy, aristocracy and democracy.
   - (*b*) Unitary and federal constitution.
   - (*c*) Rigid and flexible constitution.

Books recommended :

1.	Raleigh	Elementary Politics. (Oxford University Press.)
2.	Sastri V. S.	Kamala Lectures. (Calcutta University Press.)
3.	S. V. Puntambekar	An Introduction to Civics and Politics. (The Indian Press, Ltd., Allahabad.)
4.	Maccunn, J.	Ethics of Citizenship (Maclehose Jackson and Co., Glasgow or Macmillan and Co., London).
5.	Whyte, E. M.	The Foundations of Civics (Syndicate Publishing Co., Ltd., London).
6.	Beni Prasad	The A. B. C. of Civics (Indian Press, Ltd., Allahabad).

Paper II—Indian Civics.

Syllabus—

I. The structure of the Indian government.

(*a*) The Crown, the British Parliament, the Secretary of State for India and his Council.

(*b*) The Central Government in India—

The Executive, the Legislative, their functions, powers and constitution.

(*c*) The Provincial governments—Dyarchy.

The Executive its constitution and powers.

The Legislature, its constitution, powers and functions.

(*d*) Local Self-Government—

District Boards and Municipalities, their constitution, powers and functions.

(*e*) The Village Boards and Panchayats, Judicial Administration—

Civil Courts, Original and Appellate.

Criminal Courts, Original and Appellate.

The Privy Council.

(*f*) The Indian Services—

The Army.

The Indian Civil Service and other All-India Services.

The Provincial Services.

(*g*) Indian Finances—Source of Income and head of expenditure —Central and Provincial.

2. The Indian People—
   (*a*) Religions and movements of Religious Reforms.
   (*b*) Social Organizations—Social Movements.
   (*c*) Economic conditions—Agriculture, Industry, Trade, Transport, Poverty.
   (*d*) Education, Art and Literature.
   (*e*) Nationalist movements.
3. The Indian States—
   (*a*) The Crown and the States.
   (*b*) The States and their subjects.
   (*c*) The States and British India.

Books recommended :

1.	Marris and Garner ...	Civil Government.
2.	G. Anderson ...	British Administration.
3.	D. N. Banerji ...	Working of the Indian Constitution. (Oxford University Press.)

HISTORY AND ALLIED GEOGRAPHY.

Candidates may choose from the following groups of two papers each, each paper being of three hours :

(*N.B.*—Candidates are expected to draw freehand maps of India and Great Britain and Ireland.)

Group A.

Paper I—Indian History from the earliest times to 1919.

Paper II—British History, 1485—1919.

Group B.

Paper I—Indian History from the earliest times to 1919.

Paper II—European History, 1453—1919.

Books recommended for Paper I under Groups A and B :

1. Srinivasachari and Ramaswami Aiyangar : A History of India, Parts I, II and III. (Srinivas Varadachari & Co., 4 Mount Road, Madras.)
2. Imperial Gazetteer, Vol. II.

3. Roberts, P. E. : History of British India under the Company and the Crown, Vol. VII, Parts I and II. (Clarendon Press, Oxford.)
4. Aiyangar, R. : Pre-Musalman India. (Longmans, Green & Co.)
5. Garrett and Kohli : The Muhammadan Period. (Longmans.)
6. Rushbrook Williams : The British Period. (Longmans.)
7. Dr. Iswari Prasad : History of Muslim Rule in India. (Indian Press, Allahabad.)

The following atlas is recommended :

Joppen : Indian Historical Atlas. (Macmillan.)

Books recommended for Paper II under Group A :

1. Warner and Marten : Groundwork of English History (Blackie & Son, Ltd.)
2. Tout, T. F. : History of Great Britain, III. (Longmans, Green & Co.)
3. R. B. Mowat : A New History of Great Britain. (Oxford University Press.)
4. G. M. Trevelyan : History of England. (Longmans, Green & Co.)
5. S. R. Gardiner : A School Atlas of English History. (Longmans, Green & Co.)

Books recommended for Paper II under Group B :

1. Ramsay Muir : Atlas of European History.
2. A. J. Grant : History of Europe. (Longmans, Green & Co.)
3. Thatcher and Schwill : History of Europe. (John Murray, London.)
4. J. H. Robinson : History of Western Europe. (Ginn & Co., Boston, New York, U. S. A.).

HISTORIES OF GREECE AND ROME AND ALLIED GEOGRAPHY.

There will be two papers of three hours each.

Paper I—History of Ancient Greece.

Books recommended :

1. Edmonds, C. D. : Greek History for Schools. (Cambridge University Press.)

2. J. B. BURY : Greek History for Beginners.
3. E. ABBOT : Pericles. (G. Putnam & Sons.)
4. Tutorial Histories of Greece and Rome. (University Tutorial Press.)

Paper II—History of Ancient Rome up to 476 A.D.

Books recommended :

1. BRYANT, E. E. : A Short History of Rome. (Cambridge University Press.)
2. SHUCKBURGH : Augustus.
3. SHUCKBURGH : A Short History of Rome for Beginners.
4. Tutorial Histories of Greece and Rome. (University Tutorial Press.)
5. Pelham, H. F. : Outline History of Rome. (Rivington, London).
6. Robinson, C. E. : The Roman Republic (Methuen).

GEOGRAPHY.

There will be two papers of three hours each. The first paper will contain questions on part I of the syllabus and the second paper on parts II and III of the syllabus.

Syllabus—

I—Regional Geography : The World—Geography (Major Natural Regions) with more intensive study of—

(*a*) Japan and China and the chief industrial areas of Europe;

(*b*) North America with special reference to the chief industrial areas east of the Rocky Mountains.

NOTE—Candidates will be expected to have such an adequate knowledge of the principles of Geography (physical and human) as is necessary for an intelligent study of the regions of the world.

II—Study of survey* maps with special reference to $\frac{1}{100,000}$ Survey of India and Adjacent Countries Series, sheet no. 43 (Srinagar) or no. 52 (Leh), or no. 53 (Delhi and Simla); also 1 inch Survey of India Map no. 63K/12. Study of the principles of the chief map-projections, such as Cylindrical (Mercator), Orthographic, Stereographic, Spherical,

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* Survey maps are obtainable V.-P. P. from the Officer in charge, Survey offices, Wood Street, Calcutta. Teachers are advised to send for a copy of the "Catalogue of maps," price Re. 1 including postage.

Conical, Elliptical (Mollweide). Study of the weather maps published by the Meteorological Office, Poona, with special reference to the maps for January and July of the two years of the Intermediate course, and of other distribution maps. Colleges should subscribe for the daily weather maps published by the Meteorological Office, Poona. Annual subscription Rs.24.

The work should show that outdoor geographical studies, including practical map-work, have formed a feature of the course.

III—Economic Geography with special reference to India. The world position of India ; its natural resources ; its economic development. The general relation between geographic factors and the production of the major raw materials and food-stuffs. Sources of power Factors affecting transport, exchange of commodities and the localization of major industries.

The world production, distribution and (where applicable) conditions of growth of the commodities : wheat, rice, tea, coffee, wine, cotton, jute, sugar, and rubber ; wool ; coal, iron, and petroleum.

Books recommended :

I—As text-books—

Unstead and Taylor : Regional and General Geography for Students. (Philip.) 7*s.* 6*d.*

Leonard Brooks : New Regional Geography, Book IV, The World. (London University Press.) 7*s.* 6*d.*

Stamp : Intermediate Commercial Geography. Vols. I and II. (Longmans.)

Young and Fairgrieve : A Class-book of Practical Geography. (Philip.) 2*s.* 6*d.*

II—As reference-books for students—

Lake : Physical Geography. (Cambridge University Press.) 12*s.*

George : Relations of History and Geography. (Oxford Press.) 5*s.*

McMunn and Coster : A Regional Geography of Europe. (Oxford Press.) 4*s.* 6*d.*

Unstead : Europe of Today. (Sadgwick and Jackson.) 4*s.*

Esson and Philip : Map-reading Made Easy. (Philip.) 3*s.* 6*d.*

Dickson : Maps, how they are made, how to read them. (Bacon.) 6*d*.

Mort : An Elementary Practical Geography. (Blackie.) 2*s*. 6*d*.

Davis : Elementary Meteorology. (Ginn.) List price $2·50.

Curr : Commercial Geography. (Black.) 4*s*.

Lyde : Man and his Markets. (Macmillan.) 3*s*.

Herbertson : Man and his Work. 1*s*. 6*d*.

Goodchild : Geography and Man. (Ram Narain Lal, Allahabad.) Rs. 2.

Statesman's Year Book. (Macmillan.) 20*s*.

Whitaker's Almanack. 4*s*.

Indian Year Book : (" The Times of India " office). Rs.5-4. Also to be used as a text-book.

Imperial Gazetteer of India. Vols. III and IV. (Oxford.) 7*s*. 6*d*. each.

Atlas of Commercial Geography. (Cambridge University Press.) 3*s*.

The Oxford Economic Atlas. (Oxford Press.) 6*s*.

E. C. and L. D. Stamp : Practical Atlas of Modern Geography. (George Bell & Sons.) Re.1-12.

III—As Reference-books for teachers—

Russell : North America. (Oxford Press.) 10*s*. 6*d*.

Rodwell-Jones and Bryan : North America. (Methuen.) 12*s*. 6*d*.

Chisholm : Europe. Vols. I and II. (Stanford.) 15*s*. each.

Kean : Africa. Vols. I and II. (Stanford.) 15*s*. each.

Mackinder : Britain and the British Seas. (Oxford Press.) 10*s*. 6*d*.

Griffith Taylor : Australia—Physiographic and Economic. (Clarendon Press.) 3*s*. 6*d*.

Shanhan : South America. (Methuen). 17*s*.

Lyde : Europe. (Macmillan.) 10*s*. 6*d*.

Stamp : Asia. (Methuen.) 27*s*. 6*d*.

Simmons and Richardson : An Introduction to Practical Geography. (Oxford Press.) 4*s*.

Ormsby and Jamison : Mathematical Geography. Vol. I. (Pitman.) 5*s*.

Chisholm: Commercial Geography. (Longmans.) 25*s.* (New edition.)

Salisbury: Physiography for Schools. Shorter Course. (Murray.) 6*s.*

Davis: Elementary Physical Geography. (Ginn.) 5*s.* 6*d.*

Tarr: Elementary Physical Geography. (Macmillan.) 7*s.* 6*d.*

Mill: The Realm of Nature. (Murray.) 5*s.*

Philip's sets of maps of the various continents and of India *with explanatory handbooks.*

Philip's sets of synthetic maps (for students' use). 1*s.* per packet.

Philip's Modern School Atlas of Physical, Political, and Commercial Geography. 7*s.* 6*d.*

LOGIC.

There will be two papers of three hours each: the first paper on Deductive Logic and the second paper on Inductive Logic.

N.B.—Teachers are expected to lay adequate emphasis on written work and application of logical principles to problems.

Deductive Logic.

The following syllabus is prescribed:

Definition, scope and value of Logic. Nature of thinking. The laws of thought. The relation of thought and language. Terms and their classification. Denotation and Connotation of terms. The predicables. Formal division and definition. Propositions, their import. Reduction of statements to logical form. Distribution of terms. Nature and forms of inference. The opposition of propositions and various forms of deduction. The syllogism, its figures and moods. Reduction, direct and indirect. Hypothetical, disjunctive and mixed syllogisms. The Dilemma, Enthymeme, Sorites and Epicheirema. Function and value of syllogism. Analysis of deductive arguments.

Inductive Logic.

The following syllabus is prescribed:

The nature and presuppositions of inductive inference. Causation, its significance and importance in induction. Observation and experiment. Classification, nomenclature, and terminology. Hypothesis, Imperfect induction—simple enumeration and analogy. Methods of scientific induction. The deductive method of investigation. Analysis of inductive arguments and application of inductive methods. Explanation and establishment of laws. The relation of induction to deduction.

NOTE—Fallacies both in Deduction and Induction should be treated under appropriate context, not as a separate topic.

Books recommended (*not prescribed*) to indicate the standard of treatment of the topics prescribed in the syllabus :

1. The Elements of Logic : Robert Latta and Alexander Macbeath. (Macmillan & Co.)
2. Intermediate Logic : Welton and Monahan. (University Tutorial Press, London.) (Revised edition.)
3. Elementary Logic, Deduction and Induction : Diwan Chand. (Narayan & Co., Meston Road, Cawnpore.)
4. A Text-book of Intermediate Logic (Induction) : Jwala Prasad. (Gaya Prasad & Sons, Agra.)

Recommended for teachers' reference :

Principles and Problems of Right Thinking, by H. E. Burtt, (Harper Bros., New York).

A MODERN INDIAN LANGUAGE.

Hindi.

There will be three papers, each of three hours' duration : the first paper will be set on the prescribed prose, History of Hindi Literature and Unseen, the second paper on the prescribed poetry with rhetorics and prosody, and the third paper on the books prescribed for non-detailed study and composition.

NOTE.—(*a*) Ten per cent. of the marks in the first paper will be allotted to unseen; the same percentage of marks in the second paper will be allotted to rhetorics and prosody and one-third of the total marks in the third paper will be allotted to the portions for non-detailed study.

(*b*) Candidates are required to select books for non-detailed study under one of the three groups given hereafter. They are not required to study them intensively; they are only expected to show that they have studied them intelligently and with some appreciation.

Paper I—Prose, History of Hindi Literature and Unseen—

Text-books prescribed :

(1) स्कंद गुप्त, by Jai Shankar 'Prasad'. Students' edition, Re.1-4.
(2) आधुनिक हिन्दी कहानियां, by "Shilimukh." (Manas Mukta Karyalaya, Kisraul, Moradabad), Students' edition, Re.1.
(3) गद्य मुक्ताहार, by Ayodhya Nath Sharma. (Gautam Bros., Cawnpore), (Half cloth, Stiff cover, Re.1-8).

The following books indicating the scope and standard of knowledge required in the History of Hindi Literature and unseen are recommended :

(1) हिन्दी साहित्य, by Ganesh Prasad Dwivedi. (Hindi Press, Allahabad.)
(2) हिन्दी साहित्य का संक्षिप्त इतिहास, by Nand Dularey Vajpai. (Indian Press, Allahabad.)
(3) Hindi Unseens, Part II, by Sadguru Saran Avasthi. (Agarwal Press, Allahabad.)
(4) हिन्दी साहित्य के इतिहास का उपोद्घात, by Munshi Ram Sharma, Price 12 annas. (Nil Kanth Press, Cawnpore).

Paper II—Poetry with rhetorics and prosody—

Text-books prescribed :

(1) काव्य-कलाधर, by Ram Bahori Shukla. (Nand Kishore Bros., Benares) (omitting आंसू by Jai Shankar Prasad and pages 180 to 183), (Half cloth, Stiff cover, Re.1-4).
(2) सुदामा चरित्र, by Narottam Kavi, edited by Hari Shanker Sharma (University Book Depot, Agra). Annas 5.
(3) पंच-वटी, by Maithili Sharan Gupta. (Sahitya Sadan, Chirgaon, Jhansi.)

The following syllabus is prescribed on rhetorics and prosody :

(१) शब्दालंकार :—वक्रोक्ति, अनुप्रास, यमक, श्लेष ।
अर्थालंकार :—उपमा, रूपक, अनन्वय, अपन्हुति, प्रतीप, स्मरण, भ्रांतिमान, संदेह, उत्प्रेक्षा, व्यतिरेक, उल्लेख, दृष्टांत, अतिशयोक्ति, प्रतिवस्तु उपमा ।
स्थायी, भाव, रसों के नाम और परिचय ।

(२) मात्रिक :—चौपाई, रोला, रूपमाला, गीतिका, हरिगीतिका, बरवै, दोहा, सोरठा, कुंडलिया ।

वर्णवृत्त :—इंद्रवज्रा, उपेंद्रवज्रा, वंशस्थ, बसंततिलका, सवैया (मदिरा, मत्तगयंद, सुमुखी, सुंदरी)।

मुक्तक :—मनहर (कवित्त), घनाक्षरी।

Books recommended :

(1) काव्यांग-कौमुदी Part II, by Vishwanath Prasad Misra and Mohan Vallabh Pant. (Nand Kishore Bros., Benares.)

(2) पिंगल-प्रबोध, by Jyoti Prasad "Nirmal." (Hindi Press, Allahabad.)

(3) काव्य जिज्ञासा, by Ram Krishna Shukla (Manas-Mukta Karyalaya, Kisraul, Moradabad). Price Re.1.

Paper III—Non-detailed study and composition—

Candidates are required to study one of the following **three groups** :

(A) Medieval Poetry :

(1) तुलसी—पार्वती मंगल, जानकी मंगल (Gautam Bros., Cawnpore).

(2) सूर—'नयन' (Ram Narain Lal, Allahabad.)

(3) नंददास—भँवर गीत (Ram Narain Lal, Allahabad.)

(B) Literary criticism :

(1) वर्मा साहित्य समालोचना (Sahitya Mandir, Allahabad.)

(2) बख्शी—पंच-पात्र (Gandhi Hindi Book Depot, Allahabad.)

(3) कपूर—साहित्य-समीक्षा (Indian Press, Allahabad).

(C) Modern Literature :

(1) मैथिली शरण गुप्त—अनघ (Sahitya Sadan, Chirgaon, Jhansi.)

(2) वियोगी हरि अंतर्नाद (Gandhi Hindi Book Depot, Allahabad.)

(3) प्रेमचंद-प्रेमतीर्थ (Saraswati Press, Benares.)

Urdu.

There will be three papers in this language, each of three hours' duration ; the first paper will be set on the prescribed Prose, the second on the prescribed Poetry, and the third on Unseen and Composition. Candidates are expected to have a knowledge of the outlines of the History of Urdu literature. Critical questions will be set in the first and second papers.

Paper I.—Prose and Grammar—

Books prescribed :

(1) سخندان پارس - حصہ اول - محمد حسین آزاد from page 2 یورپ میں علم زبان up to page 54 ending with کسے تلط گفتہ باشد

(2) آبحیات - نظم اُردو کی تاریخ - محمد حسین آزاد from فلسفہ یونان کہتے ہیں up to موتیوں سے بھر دیگی

(3) شعرالعجم - حصہ ۴ - باب اول - شاعری کی حقیقت - شبلی نعمانی whole of the first Chapter.

(4) Yadgar Ghalib (یادگار غالب) by Hali, Part I only (excluding the poems in Persian).

(5) Mazameen Sir Syed (مضامین سر سید) (a) تعصب (b) تکمیل انسان کے خیالات (c) اُمید کی خوشی (d) سراب حیات (e) خود غرضی (f) انسان کے خیالات (g) بحث و تکرار (h) اپنی مدد آپ (i) اخلاق (j) خط و کتابت

(6) اِبن الوقت - ڈاکٹر نذیر احمد (فصل اول تا ششم و ہشتم تا دہم)

Grammar—علم بیان و علم بدیع

Book recommended : (1) Bahrul-Fawaid (Indian Press, Allahabad),

or

(2) Naseem-ul-Balaghat (Jafri Bros., Allahabad).

Paper II.—Poetry and Grammar—

(۱) سودا - آیا عمل میں تیغ سے تیری یہ کارزار

سودا - اب سامنے میرے جو کوئی پیرو جواں ہے (شہر آشوب)

Omit lines 14, 15, 16, 26, 48, 49, 57, 58, 62, 63, 76, 77, 78, 86, 94.

(۲) ذوق - ساون میں دیا لو مہ شوال دکھائی

ذوق - واہ وا کیا معتدل ہے باغ عالم کی ہوا

(۳) منیر - آئینۂ سخن کے لیئے ہو گہر آب میں

(۴) امیر - فصل گل آئی ہوا گلزار جنت بوستان

(۵) انیس - یارب چمن نظم کو گلزار ارم کر

(۶) وحید - اے قلم دامن کاغذ پہ گہر ریز ہو پھر

(۷) سرور جہان آبادی - حسرت دیدار - بیر بہوتی

(۸) - چکبست
خاک ہند
صبح دہرہ دون
گوپال کرشن گوکھلے
رامائن کا ایک سین

(۹) اِقبال
شمع و شاعر
تصویر درد
گورستان شاہی

(۱۰) جوالا پرشاد برق - مثنوي بہار (از گلدستہ پنج)

Thirty-five ghazals, seven from each of the following poets :

(۱۱) مير - درد - مصحفي - مومن - رند -

Ghazals beginning with the following opening lines are prescribed :

مير —

(۱) جو جو ظلم کيئے هيں تم نے سو سو هم نے أٹھائے هيں
(۲) اشک آنکھوں ميں کب نہيں آتا
(۳) يہہ جو چشم پر آب هيں دونوں
(۴) قتل کيئے پر غصہ کيا هے لاش ميري أٹھوانے دو
(۵) مير دريا هے سنے شعر زباني اِس کي
(۶) هستي اپني حباب کي سي هے
(۷) اے حب جاہ والو جو آج تاجور هے

درد —

(۱) اکسير پر مہوس اِتنا نہ ناز کرنا
(۲) عاشق بے دل ترا ياں تک تو جي سے سير تھا
(۳) اپني قسمت کے آگے داغ هوں ميں
(۴) رکھتي هے ميرے غنچہ دل ميں وطن گرہ
(۵) يہہ تحقيق هے يا کہ افواہ هے
(۶) مرا جي هے جب تک تري جستجو هے
(۷) مژگاں تر هوں يا رگ تاک بريدہ هوں

مصحفی —

(۱) نظارہ کروں دهر کي کيا جلوہ گري کا
(۲) مرض عشق سے اب کے جو سنبھل جاؤنگا
(۳) عمر آخر مٹ گيا داغ اِس دل رنجور کا
(۴) چاک هے موج تبسم سے گريبان بہار
(۵) نہ گيا کوئي عدم کو دل شاداں ليکر
(۶) رها هے گل سے افزوں بيم تا راج خزاں مجھکو
(۷) نہ وہ راتيں نہ وہ باتيں نہ وہ قصہ کہاني هے

مومن —

(۱) غيروں پہ کھل نہ جاے کہيں راز ديکھنا
(۲) وعدۂ وصلت پہ هو دل شاد کيا
(۳) لے اُڑي لاشہ هوا لاغر يہہ بس تن هو گيا

(۴) اگر غفلت سے باز آیا جفا کی
(۵) خوشي نه هو مجهے کیوں کہ قضا کے آنے کي
(٦) دفن جب خاک میں هم سوخته سامان هونگے
(۷) سینه کوبي سے زمیں ساري هلا کے اٹھے

وزن —

(۱) جو جس کے حق میں سمجها وه بهتر بنا دیا
(۲) کوه فرهاد سے مجنوں سے بیاباں جیتا
(۳) هر اِک زبان په تو حاصل کلام آیا
(۴) کیونکر نه هوئے خاک کے پتلے کو جان عزیز
(۵) چلتي رهی اس کوچه میں تلوار همیشه
(٦) سني سرگوشیاں غیروں سے اِشارے دیکھے
(۷) آج گلشن میں کون آتا هی

Grammar—علم بیان و علم بدیع

Book recommended : (1) Bahrul-Fawaid (Indian Press, Allahabad),

or

(2) Naseem-ul-Balaghat (Jafri Bros., Allahabad).

Paper III.—Unseen and Composition—

The following books are recommended for supplementary reading and they indicate the standard of the passages to be set as "unseen":

1. مرزا رسوا- شریف زاده (National Press, Allahabad.)
2. چکبست - مضامین چکبست (Indian Press, Allahabad.)
3. الیاس برني - جذبات فطرت حصه اول (ترتیب جدید-)
4. ادبي خطوط غالب by Mirza Muhammad Askari. (Newal Kishor Press, Lucknow.)
5. Ganjinai Zarrin, Part I. (Hindustani Publishing House, Meerut.)
6. Delhi ka Aik Yadgar Mushaira (Educational Book House, Aligarh.)

There will be three papers in each of the following languages. Each paper will be of three hours : the first paper will be set on the prescribed Poetry and Drama, the second on the prescribed Prose, and the third on Unseen and Composition. Critical questions will be set in the first and second papers.

Bengali.

Text-books prescribed :

Poetry.

1. Palassir Juddhya, by Nabin Chandra Sen.

2. Kirtibas Ramayan (including introduction) Ajodhya Kanda, by Nayan Chandra Mukerji. (Indian Press, Allahabad.)

Drama.

Bisarjan, by Dr. Rabindranath Tagore.

Prose.

1. *Bankim Chandra Chatterji.*—Durgesh Nandini (novel).

2. *Nayan Chandra Mukhopadhyay.*—Arundhati (Indian Press, Allahabad).

3. *Ramendra Sunder Tribedi.*—Charitra Katha.

Recommended for supplementary reading :

(1) *Vivekananda.*—Prachya or Paschatya.

(2) *Man Kumari Bose.*—Bir Kumarbadha Kavya.

Composition.

Rakhal Das Vidyaratna.—Bengali Composition. (Recommended.)

Marathi.

Text-books prescribed :

Paper I.—Poetry—

(1) Kavya Tarang, by B. K. Nerurkar. (Maharashtra Publishing House, Bombay Branch.)

(2) "Selections from Tukaram," as published in the latest edition of "Navnit."

Paper II.—Prose—

(1) "Ragini (novel)," Volumes I and II, by Vaman Malhar Joshi. (Manoranjak Grantha Prasarak Mandali, Bombay.)

(2) Jiwan-Smriti (being reminiscences of Dr. Rabindranath Tagore), published by the Manoranjak Granth Prasarak Mandali, Bombay.

Paper III.—Unseen and Composition—

Books recommended—(1) मराठी वाक्प्रचार व ह्मणी, by Vidyadhar Vaman Bhide. (Chitra Shala Press, Poona City.)

(2) मराठी ची सजावट in two volumes, by G. G. Majumdar, Teacher, Sangli High School, Sangli.

Gujarati.

Text-books prescribed :

Paper I.—Poetry and Drama—

(1) "Kavyamadhurya," selected by H. G. Anjaria.

(2) "Jaya-ane-Jayant," by N. D. Kavi.

Paper II.—Prose—

(1) "Sarasvatichandra," Part II, by Govardhanram M. Tripathi. (N. M. Tripathi, Bombay.)

(2) "Kavita-ane-Sahitya," by Sir Ramanbhai M. Nilkanth, Vol. I (pages 1—72). (Gujarat Vernacular Society, Ahmedabad.)

Paper III—Unseen and Composition. (Recommended)—

(1) Karan-Ghelo, by Nand Shankar. (N. M. Tripathi, Kalbadevi Road, Bombay.)

(2) Sanskrit Sahityani Kathao, Part I, by Navalal Nathabhai Shah. (Jivanlal, Amraoti, Ahmedabad.)

A MODERN EUROPEAN LANGUAGE.

There will be three papers of three hours each. The first paper will consist of extracts from the prescribed text-books, together with grammatical questions. The second paper will contain unseen passages for translation from French into English : these passages are not to be taken from the prescribed text-books. The third paper will consist of a passage or passages of English prose to be translated into French.

French.

Prescribed Text-books :

1. La Buche (Le Crime de Sylvestre Bonnard) Anatole France. Oxford University Press.)

2. Balzac, Eugenie Grandet (Oxford University Press).

3. Moliere, Le Bourgeois Gentilhomme.

4. French poetry for advanced students, by A. Watson Bain (Macmillan & Co.), of which poems numbered 2, 15, 23, 24, 30, 34, 35, 38, 43, 57, 61, 75, 102, 108, and 116 are prescribed.

Grammar recommended :

French Grammar (Sonnenschein's Parallel Grammar Series) *or* Heath's Modern French Grammar. (Harrap.)

Books recommended for rapid reading:

La Bastide Rouge (Elie Berthet), La Rose Blanche (Louis Enault) and La Vie de Polichinelle (Octave Feuillet), all of Siepman's French series (Macmillan & Co.).

Book recommended for French Composition :

Easy steps in French Composition, by Horsley and Bonne (Rivington).

A CLASSICAL LANGUAGE.

There will be three papers of three hours each in ea ch of these languages : the first paper will be on Poetry and Drama (Poetry, Drama, and verse unseen in the case of Latin only), the second paper on Prose and Unseen, and the third paper on Grammar, Composition and Translation into the classical language. Questions in Grammar relating to the text may be included in each of the first two papers, the number of marks assigned to such questions in each paper being not more than 20 per cent. of the total in the case of Sanskrit only.

(a) Sanskrit.

Paper I.—Poetry and Drama—

Text-books prescribed :

(*a*) Kumarasambhava, Canto V.

(*b*) Venisamhara Act III [as in Kavya Kusumavachaya, by Mahendra Pratap Sastri (University Book Depot, Agra)].

NOTES—1. Students are expected to explain selected passages in their own Sanskrit.
2. No Prakrit passages shall be set for the examination.

Paper II.—Prose and Unseen—

(*a*) Prose—Harsacharitam (abridged), by P. A. D. Thakur, M.A., Lucknow University. (Ram Prasad & Bros., Agra.)

(*b*) Unseen—

1. Sangraha Chintamani, by Pandit Pyare Lal Shastri, pages 1—66. (Dharma Press, Meerut.)

2. Rama Banagamanam, selected by Pandit Kailash Nath as in Manohara Kavyamala, pages 1—56 and published separately by Messrs. Moti Lal Banarsi Das, Lahore.

3. Pravandha Prakash, by Dr. Mangal Deva Sastri (Indian Press, Allahabad), of which nos. 3, 6, 8, 10, 18 and 21 are to be read.

NOTE—Easy passages from the abovementioned books and similar passages from other similar books should be set for translation.

Paper III.—Grammar, Composition and Translation—

Grammar.

Revision of the Grammar course prescribed for the High School Examination of 1937 *and*

I.—*Sandhis* covered by the following sutras. (It is not necessary to learn the sutras.):—

(*a*) स्वरसन्धिः—

(1) एङि पररूपम् ।

(2) ईदूदेद्द्विवचन प्रगृह्यम् ।

(*b*) हल्सन्धिः—

(1) यरोऽनुनासिकेऽनुनासिको वा ।

(2) तोर्लि ।

(3) शश्छोऽटि

(4) अनुस्वारस्य यचि परसवर्णः ।

(5) नश्छव्यप्रशान् ।

(*c*) विसर्ग सन्धिः—

(1) वा शरि ।

(2) रो रि ।

(3) ढ्रलोपे पूर्वस्य दीर्घोऽणः ।

II.—*Declension.*

(*a*) पुंल्लिङ्ग—पति, सखि, भूपति, गुरु, विद्वस्, चन्द्रमस्, श्वन्, युवन् ।

(*b*) स्त्रीलिङ्ग—लक्ष्मी, स्त्री, श्री, वधू, अप् ।

(*c*) नपुंसक—धनुष्, ब्रह्मन् ।

(*d*) सर्वनाम—उभ, एतद्, भवत्, यावत् ।

III.—General definition, with illustration of अव्ययीभाव and द्विग compounds.

IV.—Karakas covered by the following *section* of Apte's Guide to Sanskrit Composition 11, 23, 24, 25, 30, 31, 33, 36, 39, 42, 43, 44, 51, 60, 63, 67, 72, 87, 89 and 94.

V.—Conjugation, in all लकारस, except लेट् of the roots prescribed for the High School Examination and the following :

(1) भ्वादि—श्रु, पा, घ्रा ।

(2) जुहोत्यादि—धा ।

VI.—Causal conjugation.

VII.—Primary verbal suffixing—

क्त, क्तवतु, शतृ, शानच्, तुमुन्, क्त्वा, तव्यत्, अनीयर्, यत्, अय्, घञ्, तृच्, ल्युट, क, ण्वुल् ।

VIII.—Numbers : कति and from एकादश to शत together with the ordinals.

Books recommended :

1. Apte's Guide to Sanskrit Composition.
2. Bhandarkar's Second Book of Sanskrit.
3. Sanskrit Second Book, by Professor Ram Behari Lal, D. A.-V. College, Cawnpore.
4. Prabandha Prakash, by Dr. Mangal Deva Sastri (Indian Press, Allahabad).
5. A Guide to the study of Sanskrit translation and composition. by Surendranath Sharma (Gurukul, Kangri).

NOTES—(1) Sanskrit must be written in Devanagari character.

(2) Hindi may be used as the medium of instruction and examination optionally with English in Sanskrit for the Intermediate Examination.

(*b*) **Arabic.**

Paper I.—Poetry and Unseen—

Text :

(*a*) حسان بن ثابت the following as contained in Dr. Tritton's selections :

١ — عفت ذات الاصابع فالجواء
٢ — هل رسم دارسة المقام يباب
٣ — عرفت ديار زينب بالكثيب
٤ — صلى الاله على الذين تتابعوا
٥ — الا والله ماتدرى هذيل
٦ — وشق له من اسمه كى يجله
٧ — ما بال عينى لا تنام كانما

(*b*) مجموعة النظم و النثر المحفظ و التسميع لتلاميذ السنة الرابعة approved by the Ministry of Education, Egypt (to be had of the "Kitabistan," Allahabad), pages 47 to 77.

Paper II.—Prose and Unseen—

Text :

مجموعة من النظم و النثر المحفظ و التسميع لتلاميذ السنة الرابعة approved by the Ministry of Education, Egypt (to be had of the "Kitabistan," Allahabad), pages 78 to 136.

Unseen :

The following books are recommended for supplementary reading and they indicate the standard of passages to be set as " unseen " in Papers I and II :

(1) نوادرالحکایات by قلیوبی (Qaiyyumi Press, Cawnpore), pages 2 to 146.

(2) مجاني الادب Part II (Beirut), 1929, pages 127 to 202, and pages 288 up to the end.

(3) ذات المثاني Volume I, first half omiting the verses.

**Paper III.—Grammar, Composition and Translation into Arabic—*

Grammar :

Asas-i-'Arabi (اساس عربی) by M. Naim-ur-Rahman (published by the " Kitabistan," Allahabad), omitting pages 1—82, 139—170 and 248—252.

(NOTE—The exercises contained in the Asas-i-'Arabi are recommended, but not prescribed.)

NOTES—(1) Arabic words must be written in Arabic characters.

(2) Urdu may by used as the medium of instruction and examination optionally with English in Arabic for the Intermediate Examination.

(c) Persian.

Paper I.—Poetry and Drama—

Text :

(1) دیوان حافظ Ghazals beginning with the following lines :

(۱) الا یا ایها الساقی ادرکاسا و ناولها
(۲) بیا که قصر امل سخت سست بنیادست
(۳) چو بشنوي سخن اهل دل مگو که خطاست
(۴) بنال بلبل اگر با منت سر یاریست
(۵) صوفي از پرتو مي راز نهاني دانست
(۶) حاصل کارگه کون و مکان این همه نیست
(۷) جان بے جمال جانان میل جهان ندارد
(۸) سالها دل طلب جام جم از ما مي کرد

(2) غزلیات خسرو :

(۱) دلم در عاشقی آواره شد آواره تر بادا
(۲) رسید باد صبا تازه کرد جان مرا
(۳) بهار آمد و هر سبزه گل انشاني کرد
(۴) بت نو رسیدهٔ من هوس شکار دارد

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* NOTE—Alternative questions to the extent of 25 per cent. shall be set in this paper.

(۵) تنها غم خود گفتن با یار چه خوب آید
(۶) خبرم رسید امشب بر یار خواهی آمد
(۷) دلے که نرگس مستش بناز بستاند
(۸) چه بلاست از دو چشمت نظر نیاز کردند

—: غزلیات سعدی (3)

۱ — چنان بموے تو آشفته ام ببوے تو مست
۲ — هر که دلارام دید از دلش آرام رفت
۳ — آن شکر خند که پر نوش جهانے دارد
۴ — اے ساربان آهسته رو کآرام جانم میرود
۵ — شب عاشقان بیدل چه شب دراز باشد
۶ — نظر خداے بینان ز سر هوا نباشد
۷ — سرو سیمینا بصحرا میروی

—: قصائد ظهیر فاریابی (4)

(a) سپیده دم چو شدم محرم سراے سرور
(b) شرح غم تو لذت شادی بجان دهد
(c) چون بر زمین طلیعهٔ شب گشت آشکار

—: قصائد سعدی (5)

۱ — بامدادان که تفاوت نکند لیل و نهار
۲ — توانگری نه بمال است پیش اهل کمال
۳ — اے نفس اگر بدیدهٔ تحقیق بنگری

—: قصائد قاآنی (6)

۱ — بگردون تیره ابرے بامدادان بر شد از دریا
up to
تو گوئی اهل یک کشور برهنه پا برهنه سر
۲ — نسیم خلد می وزد مگر ز جویبارها
up to
مرا بعشوه گفت هی تراست هیچ میل می
۳ — بنفشه رسته از زمین بطرف جویبارها

(7) آخرین یادگار نادر شاه a Persian drama, by Agha Sa'id Nafisi. Teheran, A.H. 1305 (to be had of the "Kitabistan," Allahabad, at annas 12 per copy).

Paper II.—Prose and Unseen.

Text—

1. جنگ‌نامهٔ نعمت خان عالي
2. سوانح شیخ علی حزین from the beginning up to بطبع مردم بیگانهٔ زیادهٔ ملایمت نکند
3. نامهٔ خسروان from حالات هوشنگ up to که تازیان سلیمان دانند
4. جهانگیرنامه (Newal Kishore Press, Lucknow), pages 124 to 159.
5. اکبرنامه (Newal Kishore Press, Lucknow), pages 163—204.

Unseen :

The following books are recommended for supplementary reading and they indicate the standard of the passages to be set as 'unseen' :

1. Waqa'i Alamgir وقائع عالمگیر, compiled by Chaudhri Nabi Ahmad and published by Shihab-ud-din Ahmad, Civil Lines, Aligarh, pages 1 up to 123.
2. Adbiyyat-i-Ajam, Part II, ادبیات عجم حصه دوم by Abid Hasan Faridi (Messrs. Ram Prasad Bros., Agra).
3. إنتخاب تاریخ فرشته (Shanti Press, Allahabad).

**Paper III.—Grammar, Composition and Translation into Persian.*

Grammar—Candidates are expected to have a thorough knowledge of syntax (نحو) and rhetorics (بیان و بدیع). The following book is recommended :

مخزن الفوائد, by Maulvi M. H. Nasiri, Chapters I—VII (Mission Press, Allahabad) or مصباح القواعد by Muhyiddin (Anwar Ahmad Press, Allahabad).

Students who offer Persian are required to have such a knowledge of the etymology of the Arabic language as will enable them to explain all Arabic words and phrases which may occur in the text-books and in the books recommended for rapid reading in Persian.

NOTES—(1) Persian words must be written in Persian characters.

(2) Urdu may be used as the medium of instruction and examination optionally with English in Persian for the Intermediate Examination.

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* NOTE—Alternative questions to the extent of 25 per cent. shall be set in this paper.

(*d*) Latin.

Prescribed course :

I.—Text—

(1) CICERO : Pro Milone. (Oxford University Press.)
(2) LIVY : Book IX (Oxford University Press).
(3) VIRGIL : Bucolics (Macmillan).
(4) HORACE : Odes, Book IV (Macmillan).
(5) SALLUST : Jugurthine War (Macmillan).

II.—Grammar:—Gildersleeve's Latin Grammar or Allen's Latin Grammar is recommended.

III.—Latin Prose Composition.

Book recommended :

North and Hillard's Latin Prose Composition (Rivington).

(*e*) Greek.

Prescribed course :

Text—

(1) Thucydides, Book IV (Chaps. 1—41), (Macmillan).
(2) Euripides Alcestis (Oxford University Press).
(3) Homer Iliad I (Macmillan).

(*f*) Hebrew.

Prescribed course :

I.—Text—SAMUEL : Book I.

PSALMS, I—LX.

II.—Genesis is recommended for rapid reading in connexion with Unseen.

III.—Grammar :—Duff's Hebrew Grammar is recommended.

PHYSIOLOGY, HYGIENE AND CHILD-STUDY.

(*For girls only.*)

NOTE—The subject should be taught in such a way as to be of practical value to the students.

There will be two papers of three hours each : the first paper will contain questions on (1) Activities of the Modern Home, (2) Physiology and Hygiene, and (3) Public Health, and the second paper questions on Child-Study.

I.—Activities of the Modern Home—

(1) To provide for the physical needs and development of the members of the family.

(2) To provide for their mental, moral, and social needs.

(3) To co-operate with the community for the better meeting of these needs.

(4) To maintain the home on an economically sound basis so as to make possible the meeting of the above needs.

II.—The study of Physiology and Hygiene, especially from the point of view of the physical development of the child—

(A) The cells, the supporting tissue and their structure.

(B) The skeleton; bones, joints, the muscular system. A special study of the conditions making for the normal development of these systems, such as posture, etc.

(C) Digestion and Nutrition.

(1) The organs and processes of digestion.

(2) The food needs of the body.

(3) The classes of food-stuffs.

(4) The diet of the pre-school and school child—

(*a*) Constipation as a special dietary problem of school children.

(*b*) Malnutrition—how to detect and remedy it.

(5) Effect of cooking on food; method of cooking with special emphasis on methods of cooking food for children.

(6) Treatment of minor digestive ailments.

(7) Alcohol and drugs and their effect on the digestive system.

(D) The excretory system—the skin, kidney, bowels. Health habits of children in relation to the above.

(E) The circulation of the blood—the heart; arteries; veins; capillaries. The regulation of the blood supply. The composition of blood and its work in the body.

The problem of the child with the weak heart.

(F) Respiration—

(1) The lungs; trachea; larynx; the composition of pure and impure air; effect of breathing on air.

(2) Formation of proper breathing habits in children. Posture; special breathing exercises.

(3) Ventilation of the school and home.

(G) The nervous system and sense organs—

(1) The nerves; spinal cord; brain.
(2) The structure of the eye, ear, nose.
(3) Health habits to promote the normal development of these organs.
(4) Common defects of these organs—how to detect them.
(5) Treatment of minor ailments and accidents.
(6) The effect of alcohol and drugs on the nervous system and sense organs.

(H) Clothing—

(1) Selection of clothing, specially for children.
(2) Training of children as to care and cleanliness of clothing.

(I) Occupation, exercise, recreation, rest, sleep. Health habits to be established in children in the above.

(J) Precautions against common diseases.

(1) Health habits which will protect the child from common diseases.
(2) Health habits which will prevent the spread of infectious diseases.

III.—Public Health.

(A) Responsibility of the individual.
(B) Disposal of refuse and waste water. Drainage. Latrines.
(C) Water-supply. Food supply.
(D) Prevention and arrest of infectious diseases.
(E) Gardens. Play-grounds. Open spaces.
(F) Modern movements for the education of society in the laws of health, e.g., "Child Welfare".

IV.—Child-Study.

The study of children's development from the point of view of physique, intelligence and character, based as far as possible on the observation of individuals and classes.

An elementary study of the means by which children acquire knowledge and skill, including such as the following:

The senses and sense training: instincts and their relation to children's interests; forms of activity and expression; the function of play; imitation and suggestion; habits and their formation; memory and imagination; interest and attention; the formation of clear and connected ideas; simple processes of reasoning; growth of the will.

The aims and methods of discipline; training in responsibility, in the right use of freedom and in the social duties.

Text-book recommended for use by students :

The Psychology of Childhood, by Norsworthy and Whitely (Macmillan & Co.).

Books of reference :—

1. *Elementary Physiology, by W. B. Drummond. 2*s* 2*d*. (Publisher, Arnold.)
2. *Elementary Hygiene for India, by C. H. Bedford (Lahiri & Co., College Street, Calcutta).
3. Physiology and Hygiene, by G. D. Cathcart (Macmillan).
4. Elementary Physiology, by Bhatia and Suri (Longmans, Green & Co.)
5. Modern Psychology, by Meredith (Constable).
6. Dawn of Mind, by Drummond (Arnold).
7. Child-welfare, by Dr. S. K. Mukherji (Indian Press, Allahabad).
8. Physiology, by T. Huxley.
9. Social Psychology, by McDougall.
10. The Dawn of Character in the Child, by Edith Mumford (Longmans).
11. The Child and His Problems, by Alice Hutchison (Williams and Margate, 14, Henrietta Street, Covent Garden, London).
12. The Child under Eight, by E. R. Murray and Henrietta Brown Smith (Edwin Arnold & Co., London).
13. Physiology, Public Health and Psychology, by Charles Banks (Macmillan & Co.).
14. The Psychology of Childhood, by Norsworthy and Whitely (Macmillan & Co.).
15. Fundamentals of Child-Study, by Kirkpatrick (Macmillan & Co.).
16. Healthful Living, by Jesse F. Williams (Macmillan & Co. 1929) for the use of teachers.
17. Psychology for students, by A. I. Gates (Macmillan & Co.).
18. Principles of Psychology, by Pilsbury.

The books marked * indicate the scope of the work required in Physiology and Hygiene.

PHYSIOLOGY, HYGIENE AND ELEMENTARY PSYCHOLOGY.

(*For boys only.*)

There will be three papers of three hours' duration each as follows :

Paper I—Section I—35 marks.
„ II—Sections II and III—30 marks.
„ III—Section IV—35 marks.

SECTION I.—PHYSIOLOGY AND PERSONAL HYGIENE.

(*a*) The cells, the supporting tissues and their structure.

(*b*) An outline study of the skeletal and muscular system and conditions for their normal development.

(*c*) Digestion and nutrition—

(1) The classes of food-stuffs.
(2) The organs and processes of digestion.
(3) The food needs of the body under various conditions, e.g., climate, age, occupation.
(4) Malnutrition and its detection.
(5) The effect of cooking on food.
(6) Minor digestive ailments.
(7) Alcohol, drugs, and spices, and their effect on the digestive system.

(*d*) The excretory system—the skin, kidneys and bowels. Health habits in relation to the above.

(*e*) The reproduction system treated in an elementary manner.

(*f*) (i) The organs and mechanism of blood circulation : the adjustment of the blood supply to the needs of the different organs of the body under various conditions, e.g., the supply of blood to—

(1) the stomach during the process of digestion.
(2) the skin during varying climatic and physical conditions.

(ii) Haemorrhage and how to arrest it.

(*g*) Respiration—
  (1) The lungs ; trachea ; larynx.
  (2) Formation of proper breathing habits in children. Postures and breathing exercises.
  (3) Ventilation and its importance.

(*h*) The structure and hygiene of the eye, ear and nose.

(*i*) The temperature of the body and its regulation. Clothing.

(*j*) Exercise, recreation, rest, sleep.

(*k*) Precautions against common diseases, e.g., malaria, tuberculosis, cholera. The spread of disease by fleas, rats, lice, house flies.

(*l*) Useful and harmful bacteria.

(*m*) The care of the teeth.

II.—PUBLIC HEALTH.

(*a*) Responsibility of the individual.

(*b*) Disposal of refuse and waste water, Drainage, Latrines.

(*c*) Water-supply. Food supply.

(*d*) Prevention and arrest of infectious and contagious diseases.

(*e*) Gardens. Play-grounds. Open spaces.

(*f*) Modern movements for the education of society in the laws of health, e.g., " Child Welfare ".

III.—HISTORY OF PREVENTIVE MEDICINES AND LIVES OF PIONEERS.

(*a*) Some reference to origins of preventive medicines.

( ) Jenner and vaccination.

(*c*) Pasteur and his work.

(*d*) Lister and Modern Surgery.

(*e*) The conquest of malaria.

IV.—ELEMENTARY PSYCHOLOGY.

(*a*) General definition and scope of Psychology, Data of Psychology, Psychological Methods—Introspection, Observation and Experiment.

(*b*) *Mind and Body.*—Elementary knowledge of the structure and functions of the nervous system. The relation of mind and body.

(c) *Analysis of Mental Phenomena.*—Cognition. Affection and Activity. Their relation to one another.

(1) *Cognitive Processes.*—Sensation and Stimulus ; kinds of sensation ; intensity of sensations.

(2) *Perception.*—Sensation and Perception. Different kinds of perception. Illusions. Hallucinations.

(3) *Images and Ideas.*—Perception and Images. Types of Imagery. Reproductive and Productive Imagination. Association of ideas. The process of Reasoning.

(4) *Memory.*—Retention ; recognition ; recollection. Marks of a good memory. The training of memory.

(d) *Affective Processes.*—Pleasure and pain. Bodily expressions of affection. Emotion and Instinct.

(e) *Activity.*—Impulse. Automatic actions. Reflex actions. Instinctive actions. Ideo-motor action. Voluntary action. Habit. Conduct. Will and Character.

Books recommended :

1. Elementary Hygiene for India, by Sir Charles H. Bedford (S. K. Lahiri & Co., Calcutta).
2. Physiology, Public Health and Psychology, by Charles Banks (Macmillan & Co.).

PHYSICAL TRAINING

Physical Training should be included as a non-examination subject for girls in recognised Intermediate Colleges.

N.B.—Organised games and dancing should be introduced and encouraged wherever possible in recognised Intermediate Colleges for girls.

INTERMEDIATE EXAMINATION IN COMMERCE.

The following are the subjects of examination :

Compulsory subjects—

1. English.
2. Book-keeping and Accountancy.
3. Business Methods and Correspondence.
4. (*a*) Elementary Economics.
   (*b*) Commercial Geography.

ptional subjects—

One of the following :

1. Steno-typing (shorthand and typewriting).
2. Elements of Banking.
3. Elements of Industrial Organization.
4. Mathematics.

The following papers will be set :

1. *English.*—Two papers of three hours each.

2. *Book-keeping and Accountancy.*—Two papers of three hours each.

3. *Business Methods and Correspondence.*—Two papers of three hours each : one paper on Business Methods and one paper on Correspondence, précis-writing, etc.

4. *Elementary Economics and Commercial Geography.*—Two papers of three hours each : one paper on Elementary Economics and one paper on Commercial Geography.

5. *Steno-typing* .. { *Shorthand.*—One paper of three hours.
Typewriting.—One paper of one hour.

6. *Elements of Banking.*—Two papers of three hours each.

7. *Elements of Industrial Organization.*—Two papers of three hours each.

8. *Mathematics.*—Two papers of three hours each.

No.	Subject.	Paper.	Time (hours)	Marks for each paper.	Total marks for each subject.	Minimum pass marks.
		COMPULSORY.				
1	English ..	First paper (Prose) Second paper (Composition and translation).	3 3	50 50	100	33
2	Book-keeping and Accountancy.	First paper .. Second paper ..	3 3	50 50	100	33
3	Elementary Economics and Commercial Geography.	First paper (Economics). Second paper (Geography).	3 3	50 50	100	33
4	Business Methods and Correspondence.	First paper (Business methods). Second paper (Correspondence, précis-writing, etc.).	3 3	50 50	100	33
		OPTIONAL.				
1	Steno-typing ..	First paper (Shorthand). Second paper (Typewriting).	*3 1	50 50	100	33
2	Elements of Banking.	First paper .. Second paper ..	3 3	50 50	100	33
3	Elements of Industrial Organization.	First paper .. Second paper ..	3 3	50 50	100	33
4	Mathematics ..	First paper .. Second paper ..	3 3	50 50	100	33

* Excluding five minutes' interval between the dictation of the two sections in Shorthand.

The syllabus in each subject is as follows :

English.

(The same course as is prescribed for the Intermediate Examination of 1937, excluding Poetry portion.)

Book-keeping and Accountancy.

Paper I.—Principles of Double Entry Book-keeping and their application. Books of original entry and the ledger including tabular forms. Trading and profit and loss accounts and balance sheet with apportionments and adjustments. Classification of assets and liabilities. Treatment of cheque, bills of exchanges, hundies and pro-notes.

Consignment and joint venture accounts.

Self-balancing ledgers.

Partnership accounts.

Account Current and average due date.

Paper II.—Company accounts (excluding re-construction and amalgamation).

Reserve and Sinking Funds.

Capital and Revenue, Receipts and payments account and income and expenditure account. Investment Accounts.

Loose leaf and card system of book-keeping.

Single entry accounts.

Elementary knowledge of the Indian system of accounts. (This does not imply a knowledge of *Muria, Mahajani,* or any other script.)

Books recommended :

1. Advanced Accounts (fifth edition), by J. R. Batliboi (S. Govind & Co., Bombay).
2. Advanced Accounts, by R. N. Carter (Pitman & Sons).
3. Book-keeping and Accountancy, by L. C. Cropper.

Business Methods.

Paper I.—(Business Methods).

Establishment of a business. General routine of a business house. Filing systems. Duplicating and other laboursaving appliances. Methods of communication. Postal information.

Home Trade.

Bank and cheque. Bills of exchange and Promissory notes. Hundies. Types of business houses : sole trader, partnership and joint stock company. Import and export of goods. Elements of life, fire and marine insurance.

Principal commercial terms and abbreviations. Preparation of chief commercial documents.

Books recommended :

1. Modern Business Training, by John K. Grebby (MacDonald & Evans, London).
2. Commercial Practice, by Roop Ram Gupta and K. L. Govil, Parts I and II (Messrs. Gautama Bros. & Co., Cawnpore).

Correspondence.

Paper II.—(Correspondence).

Commercial and official correspondence.

Re-writing in plain language of passages from market reports (financial and commodity markets) with explanation of selected terms and phrases occurring in the passages.

Précis-writing.

Books recommended (not prescribed) :

(1) Modern Commercial Correspondence, by John K. Grebby (MacDonald & Evans, London).

(2) Précis-writing, by K. L. Govil (Gautama Bros. & Co., Cawnpore).

(3) Market Reports, by Govil and Gupta (Ram Prasad and Bros., Agra).

Elementary Economics.

(The treatment of the subject should be very elementary and, as far as possible, it should be illustrated by reference to Indian conditions.)

The subject-matter and scope of Economics, fundamental notions and simple definitions. Relation between wants, efforts and satisfaction.

Production.—Factors of production : Land, Labour, Capital and Organization.

Nature and Limitations of land ; Division of labour and other factors of efficiency of labour ; Organization of capital.

Laws of increasing, diminishing and constant returns.

Wants.—Diminishing utility. Value—its determination. Balancing of supply and demand.

The Machinery of exchange. Money and banking ; both to be illustrated from Indian examples (including the *sahukari* system in the villages and the *sarafi* system in cities). Convertibility of paper money in India. Cheques and Hundies (Foreign exchanges are excluded).

Distribution.—Rent—interest—wages—profits (with particular reference to Indian conditions).

Books recommended (*but not prescribed as text-books*) :

1. MORELAND : Introduction to Economics (Macmillan & Co.).

2. Introduction to Economics for Indian Students, by W. H. Moreland (Macmillan & Co., St. Martin's Street, London).

3. The Economics of Everyday Life, by Sir T. H. Penson (Cambridge University Press).

Commercial Geography.

(*a*) An elementary study of the principles of economic Geography on the basis of regional divisions, and their correlation with the distribution of the principal commercial commodities and industries.

(*b*) Trade centres, Ports, Trade routes.

(*c*) Detailed study of India on the regional basis on the lines indicated above.

Books recommended :

(1) Rudmose Brown's " Principles of Economic Geography."
(2) Howarth's " A Short Commercial Geography."
(3) Economic and Commercial Geography, by R. N. Dubey.

TYPEWRITING.

The syllabus will be the same as in Commerce for the High School Examination of 1937, but of a more advanced character—the speed to be 30 words per minute.

There shall be no paper on the theory of typewriting.

The maximum marks and the time allotted to the papers in this subject are as follows :

		Marks.	*Time allowed*
Type-copying ...	(*a*) Passage and letter..	35	One hour.
	(*b*) Tabular statement..	15	
	Total ..	50	

Books recommended :

1. Pitman's or Remington's Typewriting Manual.

2. A Typewriting Manual for Indian Students, by E. M. Moffatt and V. A. Kshirsagar (Methodist Publishing House, Lucknow).

3. The New Manual of Typewriting, by Y. D. Keshkar and Jagdish Saran (Methodist Publishing House, Lucknow).

4. Modern Theory and Practice of Typewriting, Parts I and II, by S. R. Gupta and K. L. Agarwala (Gupta Bros. & Co., Khurja).

SHORTHAND.

1. Writing in shorthand from a passage dictated at the rate of 80 words a minute, for a period of ten minutes.

2. Writing in shorthand from a business letter of general commercial phraseology dictated at the rate of 80 words a minute, for a period of five minutes.

3. Transcription of both the above.

Book recommended :

Pitman's Instructor, by Pitman & Sons, London.

ELEMENTS OF BANKING.

Paper I.—(Money, Currency and Exchange).

Fundamental terms of an elementary character.

Money—its nature and functions—qualities of a money material, meaning of monetary standards : Gold standard ; Bimetallism, Gold Exchange Standard, and Gold Bullion Standard.

Gresham's Law, Determination of value of money.

Paper Money—its kinds, advantages and disadvantages.

Foreign Exchange—Meaning of elementary terms, factors influencing rate of exchange.

Indian Currency and Exchange.

Paper II.—(Banking).

The meaning of simple banking terms.

Banks—their functions—investment of banking funds—Balance Sheet of a Bank—interpretation of the terms—development of deposit Banking, Banking crisis.

Indian Banking : an elementary knowledge of Joint Stock Banks, Imperial Bank, Exchange Banks, Co-operative Credit Banks—Indigenous Banking—Postal Saving Banks—the functions of a Central Bank—the Reserve Bank of India.

Indian Money Market—its constituents—lack of discounting facilities—causes of wide fluctuations of rate for money—its remedies.

Principal defects of Banking in India.

Books recommended :

1. Elements of Banking, by Ramchandra Rao (Calcutta University Press).

2. Banking and Currrency, by Sykes.

3. Banking and Currency, by Weston.

ELEMENTS OF INDUSTRIAL ORGANIZATION.

Paper I—General:

1. Meaning and evolution of organization; Handicraft system; the Domestic system; the Factory system; Industrial Revolution. (The treatment should be very elementary and mainly descriptive.)

2. The introduction of machinery in business; its influence upon labour and production.

3. Marketing; Wholesaler, his services to the manufacturer and retailer; Departmental stores and Multiple shops.

4. Organization of Credit Co-operation; Co-operation in the United Provinces.

5. Methods of wage-payment; Efficiency of Labour, as influenced by wages; hours and conditions of employment.

6. Organization and functions of Trade Unions; Employers' organizations in relation to labour; Relation of employers and employees.

Books recommended:

1. Social and Industrial History, by Edward Cressy.
2. Campbell—Wholesale and Retail Trade (Relevant Portions).

Paper II.—India.

1. Indian village organization; Self-sufficiency of the village; Changes in the village organization.

2. Famines; Modern changes in their character; measures adopted by Government to cope with them; the Famine Relief Fund.

3. Difficulties of Indian agriculture and remedies.

4. Agrarian indebtedness, its causes and remedies.

5. Co-operation: history up to the present day, various forms, main difficulties and remedies, co-operation in United Provinces Land Mortgage Banks.

6. A study of the following industries:

Cotton, sugar, paper and match—their localization and causes of localization,

7. Main cottage industries in the United Provinces ; their present position ; State aid ; difficulties and lines of improvement.

Books recommended :

1. Indian Year Book.

2. Central Banking Committee Report (for cottage industries, co-operation and Land Mortgage Banks).

3. Jathar and Beri, Indian Economics, Vols. I and II (only relevant portions). (Oxford University Press.)

MATHEMATICS.

Paper I (*a*).—Commercial Arithmetic, Proportion, Percentages, Stocks and Shares, Present Worth and Discount, Exchange Rates, Partnership, Profit and Loss, Commission, Brokerage, Premium, Simple and Compound Interest (the use of Logarithms will be permitted when necessary).

(*b*) *Algebra.*—The Theory, Quadratic Equations, Arithmetical, Geometrical and Harmonic Progression, Permutations and Combinations, Theory of Indices and Logarithms, Use of binomial and exponential theorems.

(*c*) *Trigonometry.*—Measurements of angles, trigonometrical ratios, identities and trigonometrical equations, practical applications of Logarithms ; Solution of Triangles, properties of triangles.

Paper II (*a*) (1).—Pure Geometry as given in Parts V and VI of Hall and Stevens' Geometry.

(2) *Analytical Geometry.*—Straight Lines, Circles, Elementary Properties of conics.

(*b*) Elements of differential Calculus.

Book recommended :

Commercial Mathematics (Sir Isaac Pitman & Sons).

INTERMEDIATE EXAMINATION IN AGRICULTURE.

[*N.B.*—Preference for admission to this course will be given to candidates who have studied (*a*) Chemistry and Physics, or (*b*) Agriculture for their admission test examination.]

The following are the subjects of examination :

Group 1.

	Maximum marks.	*Time allowed.*
PAPER I.—Chemistry	25	Three hours.
PAPER II.—Physics	25	Ditto.
Practical Chemistry ..	25	Ditto.
Practical Physics ..	25	Ditto.
Total ..	100	

Group 2.

	Maximum marks.	*Time allowed.*
PAPER I.—Botany	25	Three hours.
PAPER II.—Zoology	25	Ditto.
Practical Botany ..	25	Ditto.
Practical Zoology ..	25	Ditto.
Total ..	100	

Group 3.

	Maximum marks.	*Time allowed.*
PAPER I.—Physical properties of soil, soil geology, climatology ..	30	Three hours.
PAPER II.—Tillage and Plant Feeding, Principles of Manuring, Principles of Irrigation and Drainage ..	30	Ditto.
Practical Farming—		
Practical A. Crop culture, and vegetable gardening.	30	Ditto.
Practical B. Farm Machinery, including ploughing and other tillage operations	30	Ditto.
Practical C. Animal Husbandry	30	Ditto.
Total ..	150	

Group 4.

ENGLISH.

	Maximum marks.	*Time allowed.*
PAPER I.—Prose text-books, books recommended for general study, Unseens and Grammar	25	Three hours.
PAPER II.—Translation and Composition	25	Ditto.
Total ..	50	

Group 5.

ECONOMICS.

PAPER I.—(i) Introduction, (ii) Production, (iii) Exchange and (iv) Consumption ..	25	Three hours.
PAPER II.—(i) Difference in the cost of production and distribution, (ii) Organization and Management and (iii) Taxation	25	Ditto.
Total ..	50	

or

MATHEMATICS.

PAPER I.—(i) Algebra, (ii) Geometry and mensuration, and (iii) Trigonometry ..	25	Three hours.
PAPER II.—Graphs and Integration ..	25	Ditto.
Total ...	50	

(*N.B.*—Candidates are required to pass in the aggregate of papers and practicals in each separate group and not in each individual paper or practical in that group.)

The syllabus in each subject is as follows :

GROUP I.

I.—CHEMISTRY.

A.—Inorganic.

Common properties of matter.

Physical and chemical changes ; elements ; mixtures and compounds. Atoms ; molecules, symbols ; formulae ; equations and simple chemical calculations.

The fundamental principles of Chemistry :—Law of chemical combination by weight and by volume. Atomic theory; atomic, molecular and equivalent weights. Valency. Avogadro's hypothesis and relation of gas density to molecular weights. Charles' and Boyle's Laws. Elementary ideas as to the nature of dissociation and of the Ionic theory.

The outline of the periodic law.

The following elements and their compounds :

Hydrogen and Oxygen—their preparation and properties. Oxidation and reduction. Oxides, acids, bases and salts.

Water :—Electrolysis ; synthesis ; solution ; crystallization ; efflorescence and deliquescence ; pure and natural waters ; temporary and permanent hardness ; methods of softening water.

Nitrogen ; ammonia ; oxides of nitrogen ; nitric acid and the nitrates of sodium and potassium.

The family of the halogens with special reference to chlorine, hydrochloric acid and the chlorides.

Carbon ; forms of carbon ; carbon dioxide and the carbonates.

Sulphur ; sulphur dioxide ; sulphuric acid and the sulphates ; sulphuretted hydrogen and the sulphides.

Phosphorous ; phosphorous pentoxide ; phosphoric acid and the phosphates.

Arsenic and arsenious oxide. Lead and calcium arsenates.

Silicon, silica and the silicates.

Mercury and Silver—their oxides, chlorides and nitrates.

Copper—its sulphate, nitrate and oxides.

Lead—its oxides, chloride and sulphate.

Iron—its oxides, sulphate, chloride and phosphate ; steel, cast iron and wrought iron.

Aluminium—its oxides, sulphate and chloride.

Zinc—its oxide, chloride and nitrate.

Manganese—its oxides, chloride, sulphate and potassium permanganate.

Calcium—its oxide, hydroxide, chloride, nitrate, sulphate, carbonate and phosphate.

Barium—its oxides, carbonate, chloride and sulphate.

Magnesium—its oxide, chloride, sulphate, carbonate.

Sodium, Potassium and Ammonium—their hydroxides, chlorides, nitrates, sulphates, carbonates and phosphates.

B.—Organic.

General composition ; physical properties and general classification of carbon compounds.

Hydrocarbons, saturated and unsaturated—methane, ethane, ethylene and acetylene.

Alcohols ; methyl and ethyl alcohols ; glycerine.

Aldehydes and ketones ; formaldehyde, acetaldehyde, acetone.

Ethers :—Ethyl ethers.

Acids ; formic, acetic, butyric, oxalic, lactic, citric, and tartaric.

Fats, oils and soaps.

Carbohydrates : grape sugar, fruit sugar, cane sugar, starch and cellulose.

Proteins : Albumin.

Practical Work in Chemistry.

Differentiation between chemical compounds and mechanical mixtures.

Solution ; suspension ; sedimentation ; decantation ; filtration ; precipitation ; crystallisation and distillation.

Preparation of hydrogen, oxygen, nitrogen, nitrous oxide, nitric oxide, nitric acid, ammonia, chlorine, hydrochloric acid, sulphur dioxide, hydrogen sulphide and carbon dioxide.

Examination of hard water and methods of softening.

Preparation of the following in their pure form :

Sodium chloride, potassium or ammonium sulphate, calcium carbonate and ferric oxide.

Acidimetry and alkalimetry.

Qualitative reactions of the following :

Chlorides, nitrates, sulphates and sulphides, carbonates, phosphates : arsenic, silver, mercury, copper, lead, iron, aluminium, zinc, manganese, calcium, barium, magnesium, sodium, potassium and ammonium.

Qualitative analysis of single salts containing one acid and one base.

Preparation of methane.

Examination of the following organic compounds :

Ethyl alcohol, glycerine, oxalic acid, citric acid, grape sugar, fruit sugar, cane sugar and starch.

Study of the physical and chemical properties of vegetable and mineral oils. Saponification.

Qualitative reactions of proteins.

The following books are suggested for reference :

1. Everyday Chemistry, by Alfred Vivian (American Book Co., New York). Price about Rs. 5.
2. A Foundation Course in Chemistry for Students of Agriculture and Technology, by J. W. Dodgson and J. A. Murray (Longmans, Green & Co., Calcutta). Price about Rs. 3.
3. Introduction to the Study of Inorganic Chemistry, by W. A. Miller (Longmans, Green & Co., Calcutta). Price about Rs. 4.
4. Organic Chemistry, by Perkin and Kipping (W. R. Chambers, Ltd., London). Price about Rs. 7.
5. Elementary Agricultural Chemistry, by H. Ingle (Charles Griffin & Co., Ltd., London). Price about Rs. 4.
6. Inorganic Chemistry, by F. J. Holmyard (Edward Arnold & Co., Ltd., London).

II.—PHYSICS.

Units and measurements ; Metric system ; Length ; Area ; Volume ; Mass ; Time. The vernier and the micrometer scales. The Balance.

Velocity, acceleration and momentum. Rectilinear motion. Composition and resolution of velocities , the parallelogram law.

Force and motion ; inertia. Newton's laws of motion. Measure of a force. Composition and resolution of forces. Gravity and laws of falling bodies ; mass and weight ; centre of gravity. Centripetal and centrifugal forces defined.

Equilibrium of forces ; triangle of forces ; Simple illustrations of friction and its laws. Stable and unstable equilibrium and conditions of equilibrium as in levers, pulleys, inclined plane, ploughs.

Pressure of liquids at rest, variation with depth. Transmission of liquid pressure ; Hydraulic press ; Principle of Archimedes ; Laws of hydrometers. Specific gravity.

The atmospheric pressure. Boyle's Law. Force and suction pumps. Syphon.

Work ; energy ; power : efficiency of machines : definitions and simple illustrations.

Matter and energy. Properties of matter. Density, surface tension ; capillarity ; viscosity ; rigidity and elasticity. Molecular structure of matter. Different forms of energy.

Heat energy :—Source ; modes of transference ; effects of heat on matter ; thermometry ; specific heats ; evaporation, radiation and boiling ; vapour pressure ; condensation and frost ; latent heats ; hygrometry and dew-point ; mechanical equivalent of heat.

Radiant energy :—Source of light ; mode of propagation ; light waves ; shadows ; illumination ; reflection ; refraction ; absorption and dispersion of light ; magnification of images by lenses ; telescope ; microscope.

Magnetic energy :—Magnets ; magnetisation ; compass, magnetic fields.

Electric energy :—Electrification by friction ; insulators ; conductors ; electroscope ; electrophorus. Electricity generated by chemical action ; principle of the dynamo. Magnetic effect of current ; resistance ; transformation of electric energy into heat, light and power and its application to sound transmission ; practical acquaintance with galvanometers, voltmeters, ammeters.

Practical Work in Physics.

Accurate determination of length, area, mass, volume and density. Use of callipers, screw-gauge, balance, and squared paper.

Determination of acceleration due to gravity with a simple pendulum.

Verification of the law of parallelogram of forces.

Verification of the principle of the lever.

Determination of centre of gravity of plane laminas.

Determination of co-efficient of friction.

Determination of efficiency of a system of pulleys.

Determination of specific gravities of liquids.

Verification of Boyle's Law and practice in barometer reading.

Use of the density bottle : determination of true and apparent densities of soils and pore space.

Practice in reading various thermometers.

Determination of humidity and dew-point.

Determination of boiling point.

Determination of specific heat by method of mixture.

Determination of latent heats of fusion.

Reflection of light : use of plane and concave mirrors.

Refraction of light : determination of refractive index.

Determination of focal length of a converging lens.

Practice in use of a telescope.

Magnetisation of needles and determination of their poles.

Charting of lines of force due to a magnet in different positions.

Use of simple electroscopes (Gold leaf and Pith ball).

Construction of a simple cell and use of the simple galvanometer.

To connect lamps in series and in parallel to a source of current.

To connect a toy motor to a source of current and to reverse its direction of rotation.

Determination of Electric resistance by substitution method.

The following books are suggested for reference :

1. A High School Course in Physics, by F. R. Gorton (D. Appleton & Co., New York). Price about Rs. 5.
2. Everyday Physics, by H. E. Hadley (Macmillan & Co., Ltd., London).
3. A Manual of Physics for High Schools, by R. K. De (Book Co., Ltd., College Square, Calcutta). Rs.4-8-0.
4. A Laboratory Course in Practical Physics, by R. K. Sharma (Ewing Christian College, Allahabad). Rs.2-8-0.

GROUP II.

BIOLOGY.

[The course will aim at the study of the phenomena exhibited by living matter as illustrated by lower plants, animals and their organs.]

Introduction—Living and non-living matter; study of life in its simplest form as illustrated by Amoeba, Paramoecium and Spirogyra; general properties of protoplasm as the basis of all life.

The cell, animal and vegetable, its growth and simple division; combination of cells to form tissues; combination of tissues to form organs as illustrated by Hydra and Moss.

I. – Botany.

Study of plants in general.

External morphology of the plant organs: stem, root, leaf, flower, fruit and seed.

Internal morphology—
  (*a*) Plant cell.
  (*b*) Stem, root and leaf.

Reproduction—
  (1) Vegetative reproduction—
    (*a*) Layering: earth and air; cuttings.
    (*b*) Grafting and budding.
  (2) Sexual reproduction—
    (*a*) The flower: structure and functions.
    (*b*) Pollination.
    (*c*) The seed: development, structure, dissemination.
    (*d*) The fruit: development, types, functions.
    (*e*) Germination.

Physiology: elementary study of the following:
  (*a*) Chemical composition of plants.
  (*b*) Water in plants; intake of water and inorganic salts.
  (*c*) Carbon-assimilation.
  (*d*) Transportation; food storage.
  (*e*) Transpiration
  (*f*) Respiration.
  (*g*) Growth.

Rapid survey of the plant kingdom; Bacteria, spirogyra, mucor, moss, fern, cycas.

Elementary study of evolution and heredity. Mendelian characters.

Study of botanical characters of (Field and garden crop plants should be used as far as possible)—Cruciferae, Malvaceae, Leguminoseae, Rosaceae, Cucurbitaceae, Compositaceae, Solanaceae, Euphorbiaceae, Liliaceae, Gramineae.

Books recommended :

1.	Lowson and Sahni ..	Text-book of Botany (Indian edition) (London University Tutorial Press or Thacker, Spink & Co., Calcutta).
2.	Percival ..	Agricultural Botany (Duckworth).
3.	Ranga Chari ..	Elementary Botany for Indian Schools (Government Press, Madras).
4.	Gager ..	Fundamentals of Botany (Blakiston).
5.	Transeau ..	General Botany (World Book Company).
6.	Farmer and Chowdhry	Practical Introduction to the Study of Botany (Longmans, Green & Co., Ltd).

II.—Zoology.

Acquaintance with the following types as illustrations of the various kinds of life :

Tapeworm, Earthworm, Leech, Snail and Slug, Termite, Frog.

General organization of earthworm, fresh-water mussel, and cockroach.

Elementary anatomy and physiology of the important systems of the following :

Frog, fowl and squirrel or other small mammal.

Books recommended :

1.	Theobald ..	Agricultural Zoology (W. Blackwood).
2.	Gilbert Bourne ..	Comparative Anatomy of Animals (G. Bell & Sons).
3.	Marshall ..	Physiology of Farm Animals (Macmillan, Calcutta).
4.	Marshall and Hurst ..	Practical Zoology (Smith Elder & Co.).

Practical Work in Botany.

A general study of the plant as a whole.

Growing of plants from seeds, different types of germination of seeds.

Examination of seedlings to study external morphology of primary organs.

Simple and compound microscope —Study of their parts and their uses.

Examination and description of various types of roots, stems and leaves, their constituent parts and their modification.

Examination under microscope of cotton fibres, hairs, starch and air bubbles.

Study of unicellular organisms such as Yeast, Spirogyra, and staminal hairs of Tradescantia to demonstrate protoplasmic movements.

Freehand section with staining practice of root, stem and leaf and their description.

Study of cell-wall, protoplasm, vacules, nucleus, plastids and starch grains,

Iodine test of starch grains.

Examination, dissection and descriptive study of flowers and their parts and the study of their functions.

Examination and identification of fruits and seeds.

Identification of Spirogyra, Mucor, Moss and parts of fern and cycas.

Study of external botanical characters, including identification of plants of common field and garden crops belonging to families in the syllabus.

Practical Work in Zoology.

1. Microscopic study—
   - I.—The examination and study of the microscope and its parts.
   - II.—The study of the living cell—
     - (*a*) Examination of pond water.
     - (*b*) Amoeba.
     - (*c*) Eggs of mosquito and fly.
     - (*d*) Blood corpuscles.
     - (*e*) Scrapings from inside of mouth.

2. The study of microscopic slides—
   - (*a*) Mouth parts of the various insects.
   - (*b*) Important minute structures of the types of study.

3. Preparations for microscopic examination—
   - (*a*) Striated muscle in salt solution.
   - (*b*) Ciliated cells in salt solution.
   - (*c*) Setae of earthworm in glycerine or water.
   - (*d*) Mouth parts and gizzard of cockroach in glycerine or water.

4. Study of the external characters and habits of the living animals included in the course, excepting endoparasites.

5. Demonstration dissections in batches—
   Heart and eye of sheep or goat.

6. Osteology—
   - (*a*) Study of dentition in dog, horse or ox.
   - (*b*) Study of limbs of horse and ox.

7. Dissection by individual students—
   - (*a*) Grasshopper for all important systems.
   - (*b*) Pond snail for body organization only.
   - (*c*) Squirrel for all the important systems. Other mammals—their organs may be substituted.

8. Rearing a butterfly or moth, preferably silk moth.

9. Field observations—
   - (*a*) Animals in their natural habitat.
   - (*b*) Breeding places of harmful insects and their pests. Housefly, mosquito and termite.
   - (*c*) The insect pest selected for the year.
   - (*d*) Bird selected for study and its habits.

10. Students will make daily records of the " Field observations " and laboratory work in special note-books prescribed by the teacher in charge. The books will be submitted in the final examination as part of the practical work, duly certified as the *bona fide* work of the candidate.

Books suggested :

1. Theobald : Agricultural Zoology (William Blackwood & Sons, Edinburgh, London).
2. Kellog and Doane : Economic Zoology and Entomology.
3. Pusa Bulletins .. .. Nos. 113, 6 and 143.

GROUP III.

I.—ELEMENTARY SOIL SCIENCE.

Soil Geology.—The origin of soils ; classification and nature of soil-forming rocks ; recognition of the following rocks and their chief characteristics :

(1) Igneous: granite, syenite, diorite, biabase, gabbro, basalt.
(2) Sedimentary : limestone, sandstone, shale, dolomite.
(3) Metamorphic : schists ; gneiss ; marble ; slate ; quartzite.

The mineral constituents of the more important soil-forming rocks, their nature and composition.

The importance of felspars in the formation of clay.

The nature of kaolinite.

Acid and basic rocks and the nature of the soils formed from them.

The physical properties of soils.—Pore space ; size of soil particles and relation of size to surface area ; resistance to cultivation operations, plasticity, absorption, cohesion ; limits of moisture for successful tillage ; effect of presence of organic matter on soil structure ; effect of lime ; effect of cultivation. Factors affecting soil temperature and their control ; apparent and absolute specific gravity.

Soil classes.—Classification of soils into gravel, sand, loam, silt, clay, calcareous, peaty and concretionary soils and the nature of each class ; division of the United Provinces into its natural soil classes and the characteristics of each class.

Tillage and plant food in the soil.—Objects, kinds and timeliness of tillage. Chemical and physical effects of tillage. Elements necessary for plant growth and their sources ; abundant and deficient elements in the soil ; conversion of organic matter into plant food, conditions necessary for bacterial activity in the soil ; the nitrogen cycle briefly explained ; the relation of air, water and heat to plant food in the soil, the presence of lime and its importance to the production of plant food.

General principles of manuring in relation to soils.—The effect of organic manures on the structure of soils ; the correct time of application of manures in relation to irrigation and rain water ; losses of plant food by incorrect manuring ; losses by incorrect storage and their prevention ; acidity and deflocation due to excessive and unsuitable manuring ; remedies for this condition ; condition of soil necessary before application of fertilizers can be profitable ; the essential difference between organic manures and inorganic manures as regards effect on soils ; methods of manuring with both organic manures and chemical fertilizers.

The following books are suggested for reference :

1. The Soil, by A. D. Hall (John Murray, London).
2. The Physical Properties of Soils, by A. G. McCall (Orange Judd & Co., New York). Price about Rs. 2-12.
3. First Principles of Soil Fertility, by Alfred Vivian (Orange Judd & Co., New York, or Christian Book and Tract Society, Allahabad). Price Rs. 2-7.
4. Soils, their Properties and Management, by Lyon, Fippin and Buckman (Macmillan & Co., New York). Price Rs. 10.
5. Soils and Fertilizers, by Harry Snyder (Macmillan & Co., New York).

Climatology.—The distribution of rainfall, its effect upon the composition of soils ; determination of humidity ; factors affecting dew ; changes in atmospheric temperature and their effect upon humidity ; winds and their importance in farming ; snow, ice and frost and their relation to the soil and plant ; methods of obtaining data for climatic reports ; simple instruments used in meteorological observations ; climate in relation to soils and plant growth.

The following books are suggested for reference :

1. Agricultural Meteorology, by Warren Smith (Macmillan & Co., New York).
2. Forecasting Weather, by W. A. Shaw (Constable & Co.. London).

IRRIGATION.

I.—Irrigation Terminology.—Cusec ; acre inch ; flow irrigation ; lift irrigation ; hydraulic gradients.

II.—The necessity of irrigation.—Water requirements of crops and duty of water. Evaporation and its relation to plant growth. Seepage and its relation to soil texture. Prevention of waste of irrigation water.

III.—Irrigation Structures.—The construction of irrigation channels. Measurement of irrigation water : (*a*) in flowing channels, (*b*) at outlet discharge, (*c*) during application to crop.

IV.—Systems and Methods of irrigating crops.—Flooding or basin, border, furrow, sub-irrigation, sprinkling, advantages and limitations of each method.

V.—Irrigation Equipment.—Indigenous water lifts. Simple discussion of pumps, hand and power. Capacity, power required and efficiency.

DRAINAGE.

I.—The necessity for drainage.—Harm caused by excessive moisture in the soil. Alkali soil, formation, prevention and reclamation. Acid soils and their relation to drainage. Drainage of irrigated land.

II.—Drainage methods.—Surface and sub-soil drainage. Kinds of drains. Typical arrangement of under-drainage and surface-drainage. Drainage by pumping.

III.—The installation of drains.—Preliminary surveys and location of drains. Equipment and methods of installing drains. Calculations of size and depth of drains. Outlets.

IV.—The control of erosion—Natural drainage and its control. Soil saving dams. Broad base terraces. The reclamation of eroded land.

The following books are suggested for reference :

1. Agriculture and Irrigation in Continental and Tropical Climates, by K. D. Doyle (Thacker, Spink & Co.). Price Rs. 16-8.

2. Irrigation and Drainage, by King (Mount Pleasant Press, Harrisburg Pa).

3. Studies in Agricultural Improvement, by C. Maya Das (Government Central Press, Allahabad). Re.1-4.

Note—It is suggested that the lecture work in soil science be co-ordinated as far as possible with related work in the field.

II.—PRACTICAL FARMING.

I.—Crop Culture—

A. The growing of farm crops and their care by students : practice in the following operations :

(*a*) Preparation of seed-bed with plough, harrow, roller and planker.

(*b*) Sowing of seed by hand and with seed drills.

(*c*) Irrigation.

(*d*) Interculture with hand and bullock implements.

(*e*) Weeding.

(*f*) Earthing with hand and bullock implements.

(*g*) Harvesting, including reaping with machinery.

(*h*) Threshing, grinding, cane-crushing and fodder-cutting.

B. Crops.—Special attention to be given to the following :

(1) Cereals	..	Wheat, barley, rice, bajra, juar and maize.
(2) Fibres	..	Cotton, sunn-hemp, patsunn.
(3) Oil-seeds	..	Castor, linseed, mustard.
(4) Legumes	..	Peas, groundnuts, arhar, gram.
(5) Fodders	..	Juar, lucerne, guar, oats, fodder grasses.
(6) Miscellaneous	..	Sugarcane, potatoes, tobacco, turmeric, ginger, chillies, banda.

C. Familiarity with the principles of rotation of crops.

D. The following experiments to be performed and results attested in the student's note-book by the teacher :

(1) Time taken to plough, harrow, cultivate and plant one acre under the following conditions :

Hard soil,
Soft soil,
Sod, and
Stubble.

(2) The variation in time taken in area ploughed with differences in depth and width of ploughing under similar conditions.

(3) The area sown with simple seed drills per day calculated from the work done in two hours ; probabilities of error.

(4) Quantity of work done in hand-weeding, harrowing, etc., per hour by a given number of labourers.

(5) Increase in outturn of crops by top dressing with chemical fertilizers and oil cakes.

(6) Estimation of loss by evaporation and seepage in irrigation channels.

(7) Measurement of speed of draft cattle.

The following books are suggested for reference :

1. Agricultural Note-book of Facts and Figures for the United Provinces, to be published shortly by the Department of Agriculture, United Provinces.
2. The Complete Farmer, by Primrose McCommell (Cassel & Co., London).
3. Roberts and Fawlkner ; A Text-book of Punjab Agriculture.
4. Crop Production, by A. and G. Howard, Institute of Plant Industry, Indore, C. I.
5. Chemistry of Crop Production, by T. B. Wood (University Tutorial Press).

II.—Vegetable Gardening—

A. The growing of vegetable crops in individual plots or by small groups of students. Attention should be given to the following crops :

(*a*) Cole-crops	..	Cabbage, knol-kohl, cauliflower.
(*b*) Root crops	..	Carrot, beetroot, turnip, sweet potato.
(*c*) Bulb crops	..	Onion, garlic.
(*d*) Legumes	..	Peas and beans.
(*e*) Cucurbitaceous crops.	...	Cucumber, torai, melons, pumpkins, gourds.
(*f*) Miscellaneous	...	Tomato, brinjal, okra, chillies, maize.

B. A brief study of (1) place of vegetables on the farm, both as main and supplementary crops ; (2) the value of vegetables in the diet ; (3) management of a home garden ; (4) market gardening.

C. A note-book should be kept.

III.—Introduction to Animal Husbandry.—The course to deal with the important breeds of draft and dairy cows, goats and buffaloes. Naming of the different external parts ; ability to judge ages of cattle ; score card method of judging dairy cows and work bullocks ; grooming of cattle and cleaning of cattle byres ; the principle of balancing rations for the dairy cow, work bullock, and goat ; practice in exercising bulls ; throwing animals with ropes ; familiarity with the appearance and use of common medicines and antiseptics ; principles and methods of milking and the sanitary production of milk ; market value of dairy and draft cattle, goats and buffaloes ; milk recording, history sheets and pedigree records of dairy cattle.

The following books are suggested for reference :

1. Dairy Cattle and Milk Production, by C. H. Eckles, (Macmillan & Co.). Price about Rs. 9.

2 Feeding of Crops and Stock, by A. D. Hall.

3. The Complete Farmer, by Primrose McCommell.

4. Judging Live-stock, by John A. Craig (Kenyon Printing Company, Des Moines, Iowa). Price Rs. 7.

5. Feeds and Feeding (abridged edition), by Henry and Morrison (Henry and Morrison, Co., Ithaca, N. Y.). Price Rs. 10.

6. Goat-keeping, by Stewart, published by the Punjab Economic Board, Lahore.

IV.—Farm Machinery—

Workshop practice in wood and iron.

Practical study of the plough, harrow, cultivator, roller, and planker ; hitches ; adjustment of implements ; comparison of quantity of fodder chopped by machines worked by hand and by power with hand chopping. Calculation of speed of machines in r.p.m. and of pulley sizes.

The following books are suggested for reference :

1. Farm Mechanics, by Crawshaw and Lehman (Manual Arts Press, Peoria, Illinois, U. S. A.).

2. Farm Machinery and Farm Motors, by Davidson (Thacker Spink & Co.). Price Rs. 11-8.

GROUP IV.

ENGLISH.

There will be two papers of three hours each. The first paper will be on (*a*) Prose text-books, (*b*) books recommended for general study, (*c*) Unseens and (*d*) Grammar. The second paper will include Translation and Composition.

Text-books prescribed :

(*a*) For detailed study—

Models of Comparative Prose, by Pearce and Aryaratna, (Oxford University Press). Rs. 2-8,

or

English Prose Selections, by Sidhanta and Deb (Macmillan). Re.1.

(*b*) For general study—

(1) Mrs. Craik : John Halifax Gentleman (Abridged edition—Blackie & Sons).

(2) Henderson : Biology, the Science of Life.

(3) Bonney : The Structure of the Earth.

GROUP V.

ECONOMICS.

Introduction.—What is Economics ? Why is one nation richer than another ? Why is one man richer than another ? What is wealth ? How does it differ from income ? The whole course is an answer to these questions.

Production.—What does it cost to produce wheat on a village farm in the United Provinces ? Cost of labour, ploughing, sowing, weeding, reaping, threshing, etc. Purchase and depreciation. Interest on all expenses till the crop is sold. Rent of the land and transportation to the bazar. Cost of supervision.

Examine similarly the cost of producing and marketing milk and other common necessities.

Exchange.—Has it paid to produce wheat and milk at the above cost ? What are the present prices of wheat, milk, etc., in the United Provinces for different qualities, at different seasons and for the last five years ? What causes these differences and changes ? Laws of supply and demand and causes for variation. Relation of prices to cost of production over a period of years.

Consumption.—Why do we demand wheat, cotton, milk, pottery, tools ? Wants and their varying importance. Necessities, comforts, luxuries. Division of income between various wants. Budgets of students and villagers. Do we get equal satisfaction from equal expenditure ? How do we change our purchase when prices fall and when our incomes increase ?

Difference in the cost of production and distribution.—Why do rents differ ? Kinds of lands. Advantages of fertility and situation.

Why do rates of interest differ ? Short and long loans : risks and management of loans. Co-operative credit. Relation of the rate of interest to the supply of capital. Causes of saving.

Why do wages differ ? Grades of labour. Efficiency of labour. Real and nominal wages. Cost of living and the standard of living. Relation of wages to the supply of labour. Relation of birth-rates and death-rates to income.

Organization and management.—In what different ways might wheat be produced ? Does the method depend upon situation ? Wages ? The rate of interest ? Education ? Quality of the product ? How is the method actually determined ? By whom ?

Carry out this reasoning for milk and other common necessities.

In what cases is it most profitable to use a railway, a bicycle and one's feet ? Compare the uses of handwriting, typewriting and printing press. Hand-sewing and the sewing machine. Why do primitive methods continue in use along with more advanced ones ?

Money, banking and foreign exchange, barter, uses of money, reasons for minting and for free coinage, paper money and cheques. The work of banks and their economic importance. India's foreign trade and its advantages.

Taxation.—The necessity for taxation. The income-tax, custom duties, land revenue and excise. Who bears these taxes ? Reasons for progressive taxation. Imperial and local taxation.

The following books are suggested for reference :

1. Elements of Economics, Vol. I, by Alfred Marshall (Macmillan & Co., London). (This should be regarded as of special importance for reference.)
2. An Introduction to Economics for Indian Students, by Moreland.

or

MATHEMATICS.

Algebra—Quadratic equations involving one or two unknown quantities.

Arithmetical and Geometrical Progressions.

Permutations and Combinations.

The Binomial Theorem for positive integral index.

Proportions and Variations.

Use of indices and logarithms.

Practical use of the Slide Rule.

Geometry and Mensuration—Simple Plane and Solid Figures, excluding any detail about the sections of a cone.

Similar figures and proportionals.

Field book.

Collinear points and concurrent straight lines.

Trigonometry—Trigonometrical Ratios.

Easy trigonometrical identities and equations.

Solution of triangles.

Practical measurement of angles of elevation, heights and distances, including the necessary calculations.

Graphs—Variables and co-ordinates.

Statistical graphs and those governed by a natural law.

Continuity and discontinuity of graphs. Problems.

Graphs and Algebraical expression of functions.

The linear graph.

Use of Cartesian co-ordinates—Distance between two points. Distance between a straight line and a point.

Angle between two straight lines.

The quadratic graphs.

Practical Graphical Interpolation.

INTEGRATION—Small errors; infinitesimal quantities.

Differentials; differential coefficient.

Easy standard forms of differentiation explained (without elaborate proofs). Sum and product of functions.

Summation of series.

Integration considered as summation of a series of differentials.

A few very easy standard forms of integrals (without elaborate proofs). Integration by parts.

Easy determinations of length, area and volume.

Practical use of the planimeter and the opisometer.